

# SIERRA LEONE.

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or  
353.

## Annual Report

ON THE

## MEDICAL DEPARTMENT

FOR THE

YEAR ENDED 31ST DECEMBER, 1909.



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## ANNUAL REPORT ON THE MEDICAL DEPARTMENT FOR THE YEAR ENDED 31<sup>ST</sup> DECEMBER, 1909.

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I have the honour to submit the Annual Report on the Medical Department of this Colony for the year 1909.

### 1.—STAFF.

The Medical Staff of this Colony consisted of the same number of officers as in the previous year, viz :—

Principal Medical Officer, Senior Medical Officer, twelve Medical Officers, W.A.M.S., and three local Medical Officers.

The Junior Staff was also the same, viz : four European Nursing Sisters, a Resident and an Assistant Resident Dispenser, sixteen male Nurses and Dressers, and six female Nurses.

The Clerical Staff in my office consisted of the Chief Clerk and two Assistants.

The following changes, leaves, &c., occurred in the year :—

During my absence on leave for the first three months Dr. Kennan, S.M.O., acted as Principal Medical Officer, I taking over the duties on my return from leave on the 1st April.

The following Medical Officers returned from leave of absence during the year :—

Drs. J. F. W. Ward, D. Burrows, C. H. Allan, E. W. Wood-Mason, J. Jackson-Moore, H. E. Arbuckle, J. C. Murphy, J. S. Pearson and W. Renner. Miss G. G. Micklethwaite, Matron, Colonial Hospital, also returned from leave, also Sisters A. Drewe and A. McLeod of the Nursing Home.

The following Medical Officers went on leave about the close of the year :—

Drs. C. B. Hunter, R. H. Kennan, S.M.O., R. W. Orpen, J. McConaghy, and W. A. Alexander, also Sister I. Stevens of the Nursing Home.

*Junior Staff.*—The following were the promotions :—

*Clerical Staff.*—Mr. D. T. Betts, First Clerk, promoted First Class Dispenser.

Mr J. A. Williams, Master's Office, promoted First Clerk, vice Mr. Betts.



Mr. M. W. Frazer, Second Clerk, promoted First Clerk, Master's Office.

Mr. M. St. George Auber, Second Clerk to the District Commissioner, Kennema, appointed Second Clerk, vice Mr. Frazer.

Mr. M. W. Frazer, First Clerk, Master's Office, promoted First Clerk, vice Mr. J. A. Williams, promoted Chief Clerk, Crown Law Office.

*Dispensing Staff.*—Messrs. J. J. Thomas, P. G. Buck, First Class Nurses, were promoted Third Class Dispensers.

Mr. M. O. Frazer, Third Class Dispenser, promoted Second Class Dispenser.

Mr. I. H. Wright, Second Class Dispenser, promoted First Class Dispenser.

*Leave of absence.*—Mr. G. M. Spilsbury, Chief Clerk, returned from leave. Dispensers J. P. Metzger, P. J. John, M. O. Frazer, O. E. Nylander, C. H. A. Johnson, D. M. Thomas, H. E. Frazer and M. P. Neville went on leave during the year, also Miss J. Sibthorpe, Matron, Lunatic Asylum, and Mr. D. B. Freeman, Assistant Keeper, Lunatic Asylum, and Misses C. Paris, C. Cole, and E. Elliott, Nurses of the Colonial Hospital.

*Transfers.*—Mr. J. J. Nicol, Third Class Dispenser, was transferred to the Government of Northern Nigeria.

*Resignations.*—Mr. J. A. Short, Third Class Dispenser, Nurses C. Paris, C. Cole, C. McFoy and E. Elliott resigned their appointments during the year, also Miss J. Thomas, Nurse, Lunatic Asylum.

The services of Miss R. Smith, Nurse, Colonial Hospital, were terminated during the year on grounds of ill-health.

*Retirement.*—Miss Maria Peters, Nurse, Colonial Hospital, was placed on the Pension List during the year.

## 2.—FINANCIAL STATEMENT.

The following is a condensed statement of the actual Revenue and Expenditure of the Medical Department for the year.

REVENUE.				£	s.	d.
Sale of Medicines	...	...	...	95	14	5
Nursing Home Receipts	...	...	...	168	6	10
Hospital Receipts	...	...	...	136	8	6
Maintenance of Lunatics from other Colonies...	...	...	...	490	16	3
Total	...	...	...	£891	6	0

This shows a falling off in the receipts of £532 17s. 5d. as compared with those of 1908, the difference being accounted for by the absence of quarantine precautions, and a reduction in the number of patients (lunatics) from other Colonies in 1909, the Gold Coast and Southern Nigeria having now made provision for the treatment of their lunatics.

There is however an increase in the Hospital receipts of £38 13s. 6d., and an increase of £39 13s. 6d. in Nursing Home receipts.

EXPENDITURE.					£	s.	d.
Personal emoluments and other charges ... ..	14,977	5	4				
Provisions and Necessaries, Drugs, Hospital equipments, &c. ...	5,217	8	0				
Personal emoluments, &c., Nursing Home ... ..	896	9	7				
Total ... ..	£21,091	2	11				

This is a reduction in the total expenditure of £182. 10s. 8d. as compared with that of 1908.

### 3.—PUBLIC HEALTH.

The estimated population of the Colony proper was 78,410. The deaths registered numbered 1,353 and the total births 1,152. As, however, registrations in the Colony are not compulsory these figures should not be considered reliable. In Freetown, where registration is more strictly carried out, the deaths and births figures are more reliable.

The estimated population of Freetown was 39,531, and there were 760 deaths and 549 births registered during the year, giving a death rate and birth rate of 19 per thousand and 13 per thousand respectively, both being lower than the previous year.

The largest proportion of deaths in Freetown were due to the following diseases :—

Malarial Fevers	...	...	...	...	119
Nervous System	...	...	...	...	111
Respiratory System	...	...	...	...	108
Digestive „	...	...	...	...	106
Debility	...	...	...	...	86
Circulatory System	...	...	...	...	37

Of the total number of deaths registered, 188 occurred under the age of one year, showing a death rate of 344 per thousand infants ; this compares very favourably with the past seven years, and is a further improvement on that of the last two years. The infantile death rate for the past eight years is shown here :—

1902	1903	1904	1905	1906	1907	1908	1909
466	471	388	461	434	357	351	344

### HEALTH OF EUROPEAN RESIDENTS.

The general health of Europeans was satisfactory, the death and sick rates were below the average.

The actual European resident population in the Colony is estimated at 620.

Consisting of—

Government Officers	...	...	...	...	155
Military	...	...	...	...	344
Commercial, &c.	...	...	...	...	121

Among these there were 4 deaths during the year, due to the following causes :—

Apoplexy	...	...	...	...	1
Blackwater Fever	...	...	...	...	2
Malarial Cerebral Thrombosis	...	...	...	...	1

There were 3 deaths among patients landed from vessels :—

Malignant Malaria (Hyperpyrexia)	...	...	...	...	2
Blackwater Fever	...	...	...	...	1

The following Table gives a comparative statement of European deaths during the past 10 years.

Year.	Landed from Vessels.	Resident in Freetown.		Garrison.		Total.
		Climatic.	Otherwise.	Climatic.	Otherwise.	
1900	4	8	7	—	—	9
1901	—	5	2	3	—	10
1902	3	3	—	1	1	8
1903	2	2	2	2	3	11
1904	3	2	3	2	2	12
1905	3	2	2	1	—	8
1906	3	2	1	1	1	8
1907	2	3	3	2	3	13
1908	1	1	6	3	2	13
1909	3	3	—	—	—	6

### OFFICIAL SICK RATE.

The total official strength for the year was :—

Europeans	...	...	...	...	155
Natives	...	...	...	...	746
Total	...	...	...	...	901

Among the former there were 71 admissions on the sick list, among the latter 498.

There were two deaths among European Officials in the Protectorate, one due to a growth in the brain, ending in Apoplexy, the other was due to Dysentery, aggravated, as later accounts went to show, by excessive use of alcohol and want of proper medical attention, which was out of reach.

The official sick rate for Freetown for the past five years is shown in the following Tables :—

#### 1.—ALL OFFICIALS.

	1905	1906	1907	1908	1909
Total number on sick list	366	308	372	405	569
„ of days on sick list	2,593	2,299	2,483	2,099	3,621
Average daily number on sick list	7.10	6.28	6.80	5.73	9.90
„ number of days on sick list	7.08	7.46	6.67	5.16	6.39

#### 2.—EUROPEAN OFFICIALS.

	1905	1906	1907	1908	1909
Total number on sick list	82	68	73	60	71
„ of days on sick list	680	531	561	305	512
Average daily number on sick list	1.8	1.45	1.53	.83	1.40
„ number of days on sick list	7.28	7.80	7.68	5.08	7.21



## 3.—NATIVE OFFICIALS.

	1905	1906	1907	1908	1909
Total number on sick list ... ..	284	240	299	245	498
„ of days on sick list ... ..	1,913	1,768	1,922	1,787	3,109
Average daily number on sick list ... ..	5·24	4·84	5·26	4·89	8·51
„ number of days on sick list ... ..	6·77	7·36	6·42	5·17	6·24

The following deaths and invalidings occurred among officials (Colony and Protectorate) :—

## EUROPEANS.

Deaths ... ..	2
Invalidings ... ..	6

## Causes of Deaths :—

Apoplexy, due to tumour of the brain ... ..	1	} In Pro- tectorate.
Dysentery, aggravated by alcoholic excess ... ..	1	

## Causes of Invalidings :—

Malaria ... ..	3
Necrosis of bone ... ..	1
Lachrymal Fistula ... ..	1
Mental Aberration (temporary) ... ..	1

## NATIVES.

Deaths ... ..	3
Invalidings ... ..	nil

## Causes of Deaths :—

Diarrhoea ... ..	1
Tuberculosis ... ..	1
Lightning stroke ... ..	1

The new method introduced last year of showing the percentage loss of working days to the Government through the ill-health of European Officials is again shown in the following tabular form :—

Total number of European Officials resident in the Colony and Protectorate during any portion of the year ... ..	155
Total number of days spent by them in residence ... ..	36,060
Total number of days spent by them on sick list ... ..	512
Percentage of days lost to the service ... ..	1·41

The second class European Railway Officials, as usual, account for a large proportion of days on sick list ; with the low sick rate there were, however, two deaths, both in the Protectorate, and six invalidings.

## SMALL-POX.

There was no outbreak of this disease either in the Colony or Protectorate.

The only authentic case officially notified was one of the native crew landed from a steamer. This case was seen by a Medical Officer and was immediately isolated, and admitted to the Small-Pox Hospital at Kissy, his

comrades on board, who were also landed, were segregated at the lazaretto and were immediately vaccinated. There was no fresh manifestation of the disease.

In the Protectorate there were few cases reported, and there was no epidemic outbreak.

#### 4.—VACCINATION.

This was kept up fairly regularly during the year in the Colony and Protectorate. The lymph still obtained from the Liverpool Institute of Comparative Pathology continues to give most satisfactory results, a high percentage of successes being obtained when it was used within a reasonable time after its arrival in the Colony. To the use of this lymph must certainly be attributed the comparative freedom from Small-pox for the past three years.

The total number vaccinated was 7,443, and of these, 6,491 were successful, 430 unsuccessful, and 522 were not seen again, the proportion of successes being 87 per cent. of the total done.

#### 5.—QUARANTINE.

Only once during the year were quarantine restrictions imposed, this was in the case of the S.S. "Addah," which arrived in port with a case of Small-pox on board; as already stated, the case was immediately isolated and admitted into the Small-Pox Hospital at Kissy, and all other necessary precautions taken to prevent any outbreak or spread of the disease. New Quarantine Regulations, more in accord with modern ideas, are being drawn up, and will be in force at an early date.

The new Sanitary Station at the Cape, about 5 miles from the harbour, chiefly for the segregation of persons during Yellow Fever, Cholera, or Plague outbreaks, was almost completed; it now requires to be enclosed, with a suitable fence, and the furniture still remains to be completed. The station contains the following buildings:—

1	large	European	Barri	(or	house	on	native	model).
6	„	Native	„	„	„	„	„	„

A Hospital, Dispenser's Quarters, a Guard House Kitchens, Disinfecting Chamber, Mortuary, Wash-houses and Latrines, all the latter are permanent stone structures, the 7 barris are modified native houses. Each native barri is enclosed within its own wire fence, so that the occupants of one barri can have no communication or contact with those of another. Each is capable of accommodating 50 people. A new disinfecting house for Freetown has been built; it is situated on the quay at a convenient distance from the landing place and jetties. This chamber consists of four apartments; a Clayton's disinfecting machine is placed in one which communicates by a small opening, for the passage of the tubes of the machine, with two of the other rooms, the remaining room is intended for a store for disinfected articles awaiting shipping. With the completion of the Sanitary Station, and the Disinfecting Chamber fitted with a Clayton's machine, this Colony may be considered fairly well equipped for fighting any outbreak, or introduction from shipping, of infectious disease.

#### SANITATION OF FREETOWN.

During the year the sanitation of the city was carried on as usual by the Sanitary Department of the City Council. The scavenging was under the direct control of the same department, with the result that the work was done more efficiently and more economically than when it was let out to Contractors.



The following returns show some of the work done by the Sanitary Inspectors, during the year, in the prevention of nuisances :—

Number of Summonses	...	...	...	32
„ Convictions	...	...	...	26
Amount in fines	...	...	...	£6 2s. 1d.
„ received from owners of neglected lots cleaned by the Sanitary Department	...	...	...	£6 9s. 2d.
Persons arrested for committing nuisances				50
Number of warning notices for abatement of nuisances served	...	...	...	2,230
„ „ „ <i>re</i> cesspits	...	...	...	142
„ dead animals found and buried				38
Amount of diseased meat found and destroyed	...	...	...	1,613 lbs.

During the year the following minor sanitary improvement works have been carried out by the Government :—

Incinerators (for ordinary refuse matter, new ones built, slightly modified in shape from the first one built in 1908)	...	4
Dust-bins of the new covered type	...	11
Public Laundries	...	4

bringing the totals of each up to—Incinerators 5, Dust-bins 20, Public laundries, 6.

It is hoped that by the end of 1910, if the proposed programme of minor sanitary improvements be carried out, that a sufficient number of the above will be provided to meet the present requirements of the town.

A cattle market has also been provided, the land being granted by the Government to the City Council for the purpose ; it is situated at the north end of Hagan Street on high ground close to the beach, from which a good road has been made up the cliff, this market does away with the great inconvenience and risk to the public ; formerly experienced by the driving of cattle through the streets, and holding the market in one of the principal thoroughfares, this going on at all hours of the day. The new market is being railed in and drained, and suitable stalls for tethering cattle are being provided.

The Incinerators mentioned above, the first introduced by me in 1908 having been found to work so satisfactorily, are now being adopted as the type of rubbish destructor for general use in Freetown ; they are cheap in construction, economical in working (no special fuel being required), and efficient in action, and a great improvement in every way on the burning pits and rubbish shoots formerly in general use throughout the town, and which were at once so unsanitary and so unsightly.

During 1910 the following programme of sanitary improvements are proposed to be carried out :—

(1) Incinerators	...	...	...	...	4
(2) Dust-bins	...	...	...	...	12
(3) Laundries	...	...	...	...	4
(4) Draining public stand-pipes.					
(5) Levelling up of streets.					
(6) Continuation of general drainage scheme.					
(7) Repairs of streets.					
(8) A Fish Market to be provided.					

There is one mule and one bullock cart in use at present in connection with the scavenging of the town, but a few more are very much needed in the large scattered area to be dealt with.

The question of the disposal of excreta, and some modification in the way of improvement in the present cesspit system, are still under consideration.

## 7.—THE TEACHING OF HYGIENE IN FREETOWN.

Elementary hygiene continues to be taught regularly in all the Secondary schools, the sum of £180 being voted by the Government for distribution in prizes to the schools and scholars as an encouragement for the study of the subject. At the annual examination held in December a hundred pupils entered, thirty-two more than the previous year, with the following results :—

	1	obtained over 90 % marks	
2	„	80 % and under 91	
9	„	70 % „ „	81
7	„	60 % „ „	71
17	„	50 % „ „	61
22	„	40 % „ „	51
20	„	30 % „ „	41

The five schools represented received £20 each, the candidate who received highest marks received £5, and the seven next best candidates received £2 each.

So far as I can judge, the teachers and scholars continue to take a keen interest in the subject.

## 8.—SANITATION IN THE PROTECTORATE.

During the year a scheme was outlined by which medical officers were enabled to assist and take an interest in the sanitation of towns in the Protectorate. The scheme was energetically taken up by Drs. Jackson-Moore and Murphy in the Ronietta and Koinadugu districts respectively, and their reports showed that the Chiefs and their people were on the whole eager to carry out any suggestion made in regard to the improvement of their towns, it seemed to be quite the exception to meet with opposition or indifference to the advice given in these two districts ; it may be truthfully stated that the Protectorate Sanitation scheme has so far worked satisfactorily, so far as these two districts are concerned. In the Koinadugu district, Dr. Orpen reported that the people were decidedly indifferent, but there is no reason to fear that, with a little persistence, they will in time come round to see the advantages of cleanliness in their immediate surroundings and see the good in the white “medicine man’s” advice.

Unfortunately, in several districts patrolling for any purpose is not always possible, owing to local medical duties. Medical Officers in the Protectorate are now called upon to carry out the following varied duties as well as their ordinary purely medical work, viz. :—

- (a) To patrol their districts and instruct the natives in sanitation.
- (b) To patrol for purposes of vaccination.
- (c) To assist in the study of entomolgy.



(*d*) To study the prevalence, etc., of such diseases as Syphilis, Leprosy, Sleeping Sickness, etc.

(*e*) To select and inspect sites for quarters and report on water supplies.

(*f*) To make special study of blood-sucking flies as to their prevalence and localities.

(*g*) To specially report on each of these.

(*h*) To act as Deputy District Commissioners.

Taking into consideration the various duties Medical Officers are now called upon to perform in connection with the practice of their profession in the Protectorate, I think it is high time that they should be completely exempted from taking any part in purely administrative duties. As to Deputy District Commissioners' duties, it now frequently happens that a Medical Officer has to give up most of the time that he could have given, with much more benefit to the country, to some of the other and more congenial subjects with which he is expected to deal.

## 9.—ANTI-MALARIAL SANITATION IN FREETOWN.

1. Anti-malarial sanitation has now become an essential part of general sanitary measures, and any observations on general sanitation in reference to a town or a Colony in Tropical Africa must be interpreted as including in their scope—and a very important portion of them—measures directed to the alleviation of malaria generating conditions.

In this Colony the following anti-malarial sanitary measures were practised during the past year—1909 :—

2. In Freetown the regular collection of refuse, likely to act as breeding haunts for mosquitos, *i.e.*, old tins, bottles, calabashes and such like useless articles, from compounds and houses and their final disposal either by dumping into the sea, or by burial. A special look-out was kept up by the Sanitary Inspectors for the presence of mosquito larvæ in water receptacles in compounds, the importance of this subject being periodically impressed upon them. During the rainy season the rapid growth of weeds and grass was kept down as effectively as possible, so that they did not form haunts for mosquitos and other insect pests. A minor sanitary improvement which was appreciated and taken full advantage of by the poorer inhabitants was the free supply and distribution of rubble, small stones and sand, from the Government quarry; this was conveyed by the railway to convenient centres in the town, the people being duly notified, and the material taken by them to their own homes for the purpose of filling up and levelling their compounds and yards where necessary, which measure was the means of preventing the formation of stagnant pools of water, during the rainy season, in many premises which formerly provided numerous mosquito breeding pools.

3. The following sanitary works, which should rightly be considered as within the sphere of anti-malarial sanitation, were carried out during the year by the Public Works Department, at an outlay of £1,698 17s. 3d., namely :—

(1) New drains and concrete gutters constructed ... ..	3,350 lin. ft.
(2) Non-masonry drains, <i>i.e.</i> , drains cut in laterite or soil... ..	10,000 „ „
(3) Lengths of streets ballasted and levelled up ... ..	7,000 „ „
(4) Area of stone paved roads laid ... ..	4,500 sq. „
(5) Culverts repaired and cleared ... ..	87 „ „
(6) New culverts constructed ... ..	25 „ „
(7) Public open air laundries built ... ..	4 „ „



The laundries are constructed, where possible, in the course of existing streams, and their connection with anti-malarial sanitation is that their presence will do away with the necessity or excuse for the damming up of the water-courses by the washer-women in order to form pools for washing clothes in. These washing places are very much appreciated by the people ; they consist of rows of masonry butts, lined with cement, each butt having a supply tap and a waste pipe, the waste water being conveyed into the neighbouring drains or streams.

4. The improvement of the drains and streets will be continued by the Government during 1910, and one very important drainage reform is now being taken in hand, namely the provision of suitable masonry drains from all the public stand-pipes. These stand-pipes have been, up to now, a constant source of insanitary conditions in their immediate neighbourhood, owing to the presence of stagnant pools fed by the waste water from them, there being no proper drainage to carry it off. With such a glaring defect in the present drainage system of the town it becomes a delicate and a difficult matter for the sanitary authorities to attempt to enforce by the Police Court compliance with the Public Health Ordinance, especially in regard to anti-malarial sanitation.

5. The death rate of Freetown for the year was 19 per 1,000 ; this compares very favourably with the two previous years, and is, in fact, the lowest recorded death rate for the city, as the following table shows :—

Year.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.	1906.	1907.	1908.	1909.
Death rate per 1,000. }	26	25	27	26	27	24	23	26	*29	23	21	22	19

The deaths recorded as being due to malarial fevers numbered 119, a marked decrease as compared with the two previous years, as shown here :—

1907	...	...	...	...	...	...	202
1908	...	...	...	...	...	...	150
1909	...	...	...	...	...	...	119

The number of Europeans resident in the Colony during the year was estimated at 620, and there were 5 deaths among them, as follows :—

Officials	...	...	...	...	...	2
Military	...	...	...	...	...	nil
Commercial, &c.	...	...	...	...	...	3

#### 10.—HILL STATION.

From a climatic point of view I think the good name of Hill Station may be said with truth to have been maintained during 1909. There were in all 54 residents during the year, of which 30 were temporary, mostly military men and their wives, who were permitted to rent bungalows of officials on leave. There were 16 admissions on sick list, 5 of which were due to climatic causes, viz. :—

Remittent Fever	...	...	...	4 cases
Dysentery	...	...	...	1 do.

Of these, two were officials, and of the remaining three cases two were cases of Remittent Fever contracted on the Hill, so far as I could judge, as

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\*Severe Small-pox epidemic.

neither patient ever remained a night out of Hill Station, one of these, the wife of an Army officer, had not used a mosquito net for six or eight weeks previous to her attack, and the remaining case was one of Dysentery contracted in the Protectorate.

The two officials belonged to the Audit and Railway Departments respectively, and no doubt their cases resulted from infection during duty trips in the Protectorate.

The chief characteristics of Hill Station from a climatic and health standpoint are :—

(a) Its marked freedom from mosquitos and most other winged insect pests, these being only very occasionally seen or heard.

(b) Its cool and pleasant breezy atmospheric conditions, especially at night.

(c) Its restful quiet at night as compared with residence in or near a native town, in which night is made hideous by the barking of dogs, the beating of tom-toms, and the stupefying stuffiness of the atmosphere, which is only disturbed by the persistent attentions of mosquitos.

During the year some defective surface drains were put in order and extended well away from the quarters.

Many of the compounds still remain unfenced, much to the annoyance of residents, who try to improve their surroundings by laying out gardens for the growing of flowers, fruit, vegetables, &c. The interest of residents in their quarters is still very noticeable by the care and skill shown in the arrangements of the compounds.

A residence for the General in Command of the Garrison was built during the year. This is a very substantial stone building, the advantages of stone over wood being very marked in the greater coolness of the apartments as compared with a wooden house.

The sanitary arrangements were carried out satisfactorily during the year. The sanitary trenching ground was condemned owing to a possible contamination of the Freetown Water Supply catchment area, and a new ground selected for the purpose, which is more central and equally suitable, and quite free from any risk of contaminating water sources. One of the outstanding drawbacks in Hill Station cantonment as a residence is the, at present, great liability to a water famine in the dry season, owing to the defective condition of the reservoirs, which are incapable of holding water for any time after the rainy season ends, when we are compelled to depend on a constantly diminishing streamlet that barely fills the small dam above the reservoirs, and from which our quarters are directly supplied. Even with every precaution against waste Hill Station water supply for two months or more in the year is at present very critical and uncertain. This unsatisfactory state of things is all the more deserving of adverse criticism, when we know that with well constructed receptacles an ample supply of water could be provided, as in the rainy seasons an unlimited quantity could be collected.

There is another sanitary defect which requires attention, and that is the surface drains on each side of the roads around the station. These are at present mere gutters excavated in the soil, which are being year by year washed away, resulting in the formation of deep holes along their courses, which, owing to the



stagnation of water in them, must in time become insanitary and lead to some of the malarial conditions found in Freetown. These drains should be attended to, and be laid down with the egg shape drain-pipe sections now being laid in Freetown drains ; and I would point out that the sooner this is done the less it will cost, as every rainy season washes more of the existing gutters away.

At the end of the year the temporary prison and the 20 to 30 prisoners accommodated therein were removed, and the sanitary gang of labourers were as a consequence increased from 12 to 32. The chief work of the 20 extra labourers will be clearing and rooting the bush around the bungalows, the ordinary sanitary duties being performed as usual.

# 11.—METEOROLOGICAL RETURN FOR THE YEAR 1909.

	TEMPERATURE.						RAINFALL.		WIND.		REMARKS.
	Solar Maximum.	Minimum or Grass.	Shade Maximum.	Shade Minimum.	Range.	Mean.	Amount in Inches.	Degree of Humidity.	General Direction.	Average Force.	
January ...	137.4	64.2	93.4	70.0	23.4	81.7	0.10	68	NW	1	
February ...	142.0	65.8	99.4	70.6	28.8	85.0	0.33	64	NW	2.57	
March ...	146.8	69.0	95.6	68.0	27.6	81.8	3.26	66	NW	1	
April ...	147.0	69.4	94.4	69.0	25.4	81.7	3.18	64	N	1	
May ...	151.4	69.8	94.4	68.2	26.2	81.3	10.37	73	N	1	
June ...	150.2	68.0	93.6	67.6	26.0	81.6	21.04	78	C	1	
July ...	149.4	68.0	87.4	67.0	20.4	82.5	28.79	81	NW	2	
August ...	148.4	67.0	81.8	67.8	14.8	74.4	38.96	84	NW	2	
September ...	152.4	69.0	93.4	67.2	26.2	80.3	16.45	83	W	2	
October ...	153.4	69.0	94.0	67.6	26.4	80.8	12.62	79	NW	1	
November ...	145.0	68.4	94.6	69.0	25.6	81.8	5.70	74	W	1	
December ...	140.4	63.4	92.2	68.8	23.4	80.5	0.86	72	C	1	
Total ...	...	...	...	...	...	...	141.42	...	...	...	



## HOSPITALS AND DISPENSARIES

## 12.—COLONIAL HOSPITAL, FREETOWN.

(By DR. D. BURROWS.)

*Charge.*—The Hospital was administered from the beginning of the year until April by Dr. Burrows, and from then until the end of October by Dr. Kennan, the Senior Medical Officer, and from then until the end of the year again by Dr. Burrows. The following Medical Officers were attached to the Hospital during the year, viz :—Dr. McConaghy for 9 months, and Drs. Ward and Pearson for shorter periods. Dr. Renner was at his accustomed post, except for four months, when he was away on leave in England from July 14th to November 14th.

*The Matron.*—Miss Micklethwaite was absent on leave for four months, May 7th to September 8th, and Miss McLeod, of the Nursing Home Staff, acted for her during that time. The junior staff remained unaltered during the year.

*Improvements and Alterations.*—In the Building, a new latrine for the exclusive use of out-patients was erected. A new room was added to the nurses' quarters attached to the female wards. This will be productive of greater comfort to the nurses and also ensure their more effective control. A new kitchen is in process of construction, and this will be productive of greater comfort to the junior male staff, under whose rooms the old kitchen was very assertive.

The Out-patients' Department has been renovated and painted with oil paint, thus making it capable of more efficient cleaning and also more attractive and wholesome looking.

While these additions are steps in the direction of improvement, they are at the best patchwork, and as the prospect of a new Hospital is now within sight, further comment is withheld. But the fervent hope is expressed that the Out-patients' Department in the new scheme will be so arranged as to ensure its complete isolation from the other parts of the Hospital, the lack of which arrangement now entails much vexation of spirits, loss of time and, presumably, of material, to say nothing of the almost impossible task of maintaining discipline.

The improvements noted last year in the direction of clothing stores for each ward have more than justified their inception. The Inventories of all Departments have, in consequence, been maintained at a surprisingly accurate level. Before proceeding to analyse the comment on the various returns and tables in Appendix C, I would draw attention to the gratifying increase in the total amount of work done, and feel safe in asserting, after due experience in the working of this Hospital, that the limit of the utility has been reached. This statement is by no means meant to suggest that more work will not be done, but that more cannot be done without the provision of greater accommodation and necessarily of an increase in the medical and nursing staff of the Hospital.

TABLE 1.—“ Annual Medical and Surgical Returns.”—This table shows an increase of 144 males and of 133 females, or a total increase of 277, over the number for 1908 (*i.e.* 980) of Intern patients.

TABLES 2 AND 3.—The average number of patients in Hospital per diem was 55 during the year under report. During 1908 this figure stood at 41. When the maximum accommodation of the Hospital, viz. : 62 beds, is considered, these figures are highly satisfactory, especially as six beds are reserved more or less for paying patients, and further as certain beds are, when possible, kept vacant for surgical and midwifery cases, to the exclusion, unfortunately, of deserving medical cases. The plea for increased surgical accommodation is urged in the comments on Table 6, “ Surgical Operations.”

In Table 3, we have again cause for satisfaction. Not only has there been a material drop in the total number of deaths from 128 to 107, but the proportion of deaths to cases treated has dropped from 13 to 8 per cent. Of the total number of deaths 48 were within 72 hours of admission, and, as usual, these cases were moribund on admission, so that of the remaining number of deaths, viz. : 59, the Hospital may be reasonably pleased at the unavoidable mortality being reduced to barely 5 per cent. of the admissions.

The actual number of cases treated as Intern patients may not be in excess of any recorded, but the salient feature of this return lies in the fact that the accommodation of the Hospital was taxed to its utmost through every day of the year. The large numbers recorded for 1903, 1904, 1905, are accounted for by the fact that cases were taken in and accommodated on the floor, thus overcrowding the wards. This objectionable practice has rightly been discontinued.

TABLES 4 and 5 call for no special comment, the main result of Table 5 being dealt with under Table 3.

TABLE 6, “ Surgical Operations.”—Before commenting on the returns for the year under report a glance at the following figures will give some indication of the progress made in this particular direction.

1902 number of Operations performed	...	...	44	
1903        ”               ”               ”	...	...	126	
1904        ”               ”               ”	...	...	145	
1905        ”               ”               ”	...	...	179	
1906        ”               ”               ”	...	...	146	
1907        ”               ”               ”	...	...	190	
1908        ”               ”               ”	...	...	135	
1909        ”               ”               ”	...	...	207	} 217
Other anæsthetics	...	...	10	

It will be seen that the number of Operations performed in 1909 was 217, and this is greater than the number for any previous year, and when the number of deaths after operations, viz. : 8, is considered, these figures are satisfactory from every standpoint. A glance through the table will reveal the fact that the range of operations was extensive, and that the success attendant on them is highly creditable to the after care and attention bestowed.

Owing to the limited staff of the Hospital it is found convenient to perform operations on only two days a week. These operations are more or



less of an urgent nature, and the consensus of opinion of all medical officers who have been attached to the Colonial Hospital is, that this number could be easily doubled, and that surgery of the relieving order, such as for deformities, diseases of the eye, &c., could be practised with considerable effect if the medical and nursing staff of the Hospital were adequately increased. Surgery under existing conditions involves a degree of preparation and after anxiety out of all proportion to the severity of the operations, and until a distinct surgical side—not merely a ward as at present, and even this at times is utilised for medical cases—is provided, the present unsatisfactory method must unfortunately continue. In the meantime we wait, but our efforts and their results we may justly urge as a plea for improved accommodation and an increased staff.

*Paying Out-patients.*—We commented on the insignificant sum of £10 which was received last year in return for relief afforded in the Out-patients' Department. We have an increase of over 5,000 Out-patients for 1909, and, sad to tell, the receipts have fallen to the deplorable amount of £6 18s. 0d., or, to put it in a more convincing light, the 27,474 Out-patients contributed  $1\frac{1}{17}$  of a penny each for the treatment received.

The amount received for the dispensing of private prescriptions of medical officers was £16 10s. 10d., this amount including moneys paid for trusses, syringes, bandages and other appliances. These prescriptions numbered 360.

It may not be out of place to record that, apart from making up of the prescriptions for 27,474 Out-patients, the daily average of 54 In-patients, the number of prescriptions sent by Government officers, for themselves and their families, numbered 2,246 during the year.

This involves no light task on the Resident Dispenser and his Assistant, who have incidentally to supervise the dispensing done by the juniors undergoing training.

*Clinical Laboratory Report.*—This Department has more than justified its inception, and though conducted at some personal inconvenience, has been productive of results which urge the necessity for greater facilities being granted to continue and expand its utility. We do not pretend that research work can be essayed with the present limited staff of medical officers attached to the Hospital, but much could be done to secure more efficient clinical results, and, more important still, in the matter of securing material and collections of parasites for the Schools of Tropical Medicine in England. In the daily routine of work, opportunities come to hand of securing material which the Schools would greedily assimilate, and which are invaluable to the special training in Tropical Medicine insisted on in the case of candidates for the West African Medical Staff, but which, perforce, cannot be taken advantage of owing to the lack of time and of the necessary number of trained medical officers.

The number of recorded cases subjected to microscopic examination was 196. This by no means represents the full number of cases examined, as unfortunately a large number were not entered, and this is exclusive of the work done on a tour through the Colony by Dr. Burrows, for the purposes of obtaining information as to the prevalence of Yaws, Syphilis, and towards preparing a Malarial Index of the Colony.



*Vide* Appendix. The following table shows *some* of the results obtained.

Nature of subject examined.	Result.	Remarks.
Malaria—Benign Tertian ... ..	7	
„ Sub-Tertian ... ..	14	No crescents found.
„ Quartan ... ..	nil	
„ Negative ... ..	45	Thus excluding Malarial infection.
Filaria—Mature male F. loa ... ..	1	
„ „ female F. loa ... ..	2	All from same case. <i>Vide</i> Appendix.
„ M.F. Diurnæ ... ..	1	
Sputum—B. Tuberculosis ... ..	6	Specimens taken indiscriminately.
„ Negative ... ..	18	
Fæces—Anchylostomum Duodenale... ..	6	
Amœba Coli ... ..	15	
Lamblia Intestinalis... ..	1	
Balantidium Coli ... ..	2	
Negatives and other common ova ... ..	22	
Night-blood films for Dr. Prout, Liverpool School ... ..	100	Results not known.

Table XV. in Appendix C. gives the “Malarial Index” of the more important towns in the Colony. The splenic enlargement was taken as the indication, and in the large proportion of the bloods examined of the same cases the sub-tertian Malarial parasite (ring forms only) were invariably found.

Table No. X., “Return of Diseases (Out-patients).”—This return gives the most striking proof of the expansion of the Hospital work, and it is only fair to suppose that, had the accommodation been available, the number of Intern patients would have increased in direct proportion. The total number for the year is 27,474, or an increase of 5,875 over the number for 1908.

The attached table speaks for itself.

Out-patients treated in 1900 numbered	7,653
„ „ 1901 „	7,864
„ „ 1902 „	9,321
„ „ 1903 „	Records missing.
„ „ 1904 „	9,938
„ „ 1905 „	8,374
„ „ 1906 „	15,257
„ „ 1907 „	18,008
„ „ 1908 „	21,599
„ „ 1909 „	27,474

*General Conclusions.*—It will be now patent to those who read that the work of the Hospital in the year under review has increased in every direction. It is still more so to the working staff of the Hospital, whose resources and time have been taxed to the utmost to attain this level. Apart from the actual practice of medicine and surgery, there are other duties which are lost sight of by the public, in the management of an institution of the pretensions of the Colonial Hospital. We have a large staff of untrained material to deal with, and their instruction, both practical and theoretical, forms part of the duties of the Hospital staff. The examinations for their admission and promotion to higher grades, held twice a year, occupy considerable time and labour. The druggist examination has been ruled to form part of the

“expected” duties of the medical officers ; the examination of candidates for Government service, such as the Police, Post Office, Boatmen, and Warders also takes time. In a large community like Freetown lunacy is a serious item, and examination of lunatics is necessarily a tedious and trying ordeal. It frequently happens that two medical officers are in attendance at either the Supreme or Police Courts together ; their work at the Hospital is therefore at a standstill during the most busy time of the day. One medical officer is also “Medical Officer” of Prisons, and he is liable to be called up at any hour, in addition to his routine duties in the Hospital, and in the Prison Infirmary. One medical officer is generally engaged for two or three months, according as he can spare the time, on the annual Board of Survey on the Medical Institutions of the Colony. Two medical officers are constantly on emergency duty for midwifery cases and casualties at any hour of the day or night, in addition to the urgent calls to cases actually in their own wards or at the houses of Government Officials. The administration of the Hospital, and the scrutiny of the various books concerned, is no light task, and finally the extra work thrown on the other two, when one of the three is ill, robs all other work of professional pleasure.

I have represented these matters at length, and, though wishing to make no invidious comparisons, cannot refrain from stating that the amount of work done, and the responsibilities placed on medical officers attached to the Hospital, are out of all proportion to the individual work which medical officers in more favoured Hospitals and Institutions, not necessarily in Sierra Leone, are called upon to perform. The experience gained is invaluable, but the overtaxing of energy is detrimental to both mind and body, and we may justly claim that we have demonstrated to the last degree the working possibilities of the Hospital during the year 1909.

### 13.—REPORT OF THE KING-HARMAN MATERNITY WARD OF THE COLONIAL HOSPITAL FOR THE YEAR 1909.

PRINCIPAL MEDICAL OFFICER,

1. I have the honour to present the following report on the King-Harman Maternity Ward of the Female Division of the Colonial Hospital for the year 1909.

(a) I had charge of this Department for the greater portion of the year, with the exception of the period I was on furlough, that is from 15th July to 14th November, when Drs. Kennan, McConaghy and Ward were respectively in charge.

(b) The Matron (Miss Micklethwaite) was in charge of the Nursing Department of the Colonial Hospital until she went on furlough on May 15th, and since her resumption of duty on the 8th of September.

(c) During her absence Miss McLeod of the Nursing Home was appointed Acting Matron of the Colonial Hospital, and took charge of the midwifery ward. She ably carried out the duties of her post. About a week or fortnight after Miss Micklethwaite left there was a cessation of admissions to the Midwifery ward, due to the fact that the people having heard of her departure were waiting to know which, if any, of the "white ladies" the Government would put in charge before they could go or send their children to seek admission. On this question being satisfactorily settled by the appointment of Miss McLeod, the admissions into these wards became regular and frequent.

(d) During the year there were six girls under training as resident staff nurses and three as probationers. A senior nurse resigned to get married, and another had to leave through failing health.

2. During the year, 97 patients were admitted for treatment, and were distributed as follows:—

The Private Ward	...	6	The Public Ward	...	91
------------------	-----	---	-----------------	-----	----

They consisted of—

Primipara	...	Married	12	Unmarried	35
Multipara	...	do.	36	do.	16

Included in these cases were—

Abortion	...	...	...	...	...	11
Threatened Abortion	...	...	...	...	...	2
Miscarriage	...	...	...	...	...	1

The result of treatment was—

Discharged cured	...	...	...	...	...	77
Relieved	...	...	...	...	...	14
Deaths	...	...	...	...	...	5

One remaining in Hospital on 31st December, 1909.





Of instrumental labour, there were :—

Evisceration and Decapitation	...	...	...	1
Application of Forceps	...	...	...	6
Perforation and Forceps	...	...	...	1
Podalic Version	...	...	...	1
				<hr/>
				9
				<hr/>

Two cases undelivered.

The sexes of infants born were :—

Male	...	...	...	...	...	...	40
Female	...	...	...	...	...	...	39
							<hr/>
							79
							<hr/>

Particulars of the cases which resulted in the five deaths above mentioned were :—

- (i.) Fever on admission and Eclampsia after birth, temperature at death 110, died within thirty hours on admission.
- (ii.) Anti-Partum hæmorrhage, Placenta Prævia, exhaustion, hæmorrhage more or less severe for six days before admission, during which time she was under the treatment of a native midwife ; died 24 hours 30 minutes after admission.
- (iii.) Exhaustion and Fever, temperature on admission 104, died 58 hours after admission undelivered ; had been under native treatment.
- (iv.) Sudden collapse, nine hours after admission.
- (v.) Admitted in a moribund condition, died within fifteen minutes of admission undelivered ; had been under native treatment.

3. The number of admissions into these wards during the year was larger than at any other period, and this in my opinion was largely due to the fact that we had continuously in charge a responsible European Matron, thereby maintaining the confidence of the people in the Institution.

Admissions during the past eight years were :—

1902	...	..	...	...	...	...	47
1903	...	...	...	...	...	...	29
1904	...	...	...	...	...	...	61
1905	...	...	...	...	...	...	74
1906	...	...	...	...	...	...	46
1907	...	...	...	..	...	...	60
1908	...	...	...	...	...	..	57
1909	...	..	...	..	...	...	97
							<hr/>
							471
							<hr/>



Puerperal Fever is one of the principal causes of death among the creole population of the Colony, but it is infrequent among the aborigines. It is due to the following causes :—

(a) The use by the lower classes of any sort of rags that might have been kept for months during the period of pregnancy to be used on the day of parturition.

(b) The attendance of ignorant practising druggists and half educated creole grannies or midwives, who are largely patronized by the people, and in my opinion constitute an even more potent source of infection, in that, with a view of showing and impressing upon the relatives of their patients their knowledge as well as of inspiring confidence these druggists and grannies make frequent vaginal examination with unclean hands, and even when a pretence is made of washing their hands this is done insufficiently. Infection is also conveyed by some of them by means of instruments such as syringes and forceps, which some of the druggists and others use, and which may not be thoroughly sterilised and rendered aseptic.

Among the aborigines Puerperal Fever is far from being common, in fact it is rare. The old women in attending to their patients do not make any vaginal examination at any period during the stage of parturition ; their examination is wholly carried out on the external abdominal surface, and therefore they do not convey sepsis by their hands per vagina.

Among the Timnes, Mendis and other tribes labour is conducted outside the house ; the patient is taken to the Bundo bush or sacred grove, not far from the village or fakai, which is carefully cleared of bush, swept and rubbed and whereon a new mat is laid for her use. Here the head of the Bundo women, an old woman who must be a mother herself, attends to the patient, and everything connected with the labour takes place. After labour is over the patient is bathed with native herbs already prepared, after which she leaves the bush and returns home to her friends to commence her daily duties. This generally happens on the same day, or within twenty-four hours after delivery. Thus, from first to last the patient runs no risk of suffering from Puerperal Fever.

4. The Gynæcological section of the King-Harman ward has increased in the number of attendances during the year, and this is due to the fact that the people were encouraged to attend and were specially looked after. In the Eighties the Colonial Hospital had a very large Gynæcological practice, which was under the immediate charge of the late lamented Dr. Hume Hart, Colonial Surgeon. On his decease the attendance as a special section of the Hospital entirely fell away, and there was no public institution where the poor women of Freetown could obtain regular attendance. This was given by the general practitioners at their houses, but not satisfactorily. On the opening of the Princess Christian Cottage Hospital, now called the Princess Christian Mission Hospital, women of all classes flocked there for treatment, and that institution had the monopoly of these cases. After the opening of our King-Harman ward, the Executive Officer did not encourage the creation of this special department, owing to the increase of Government Officers in every department of the service, and the consequent increasing demands made upon the time of the two medical officers stationed in Freetown beside himself. Notwithstanding this, a large number of cases were seen and treated among others in the Out-patients' Department.

During the year under review this section of the work has been better organised and received greater attention, owing to the fact that the number of

medical officers temporarily resident in Freetown was increased from two to three.

Although all cases are seen and attended to daily in the Out-patients' department, yet the medical officer in charge of King-Harman ward sees and treats apart, on Tuesdays and Fridays, all patients suffering from diseases peculiar to women. This has served to induce and encourage the shy and delicate to attend for treatment, and been a means of increasing the number of attendances.

It is indeed very surprising to see the large number of women of all classes, especially among the creoles, now coming up for treatment who are suffering from Subinvolution, Endometritis, Fibroid Growth, Salpingitis, Ovarian Tumour, Uterine Polypus, Gonorrhoea, Disorders of Menstruation and other conditions, which is itself a manifestation of confidence by the people in this branch of Hospital work.

To enable the medical officer in charge to cope with this increasing class of cases, and to give the much sought for relief, it is necessary that the equipment available for use should be increased, and every facility given for the vigorous prosecution of the work. From a humanitarian and social point of view this is urgently necessary, for there has been occurring for several years among the descendants of the liberated Africans and original settlers an increasing death rate, a falling birth rate, a diminution in the number of families among the married people, and an increase in sterility. The increase of the population of the Colony proper is not among these two sections, but is due to the large influx of the aborigines, Mendis and Temnes who are becoming residents in the villages and towns.

It is proposed to open a special Out-patients' Registration of diseases book, which would enable more accurate statistics to be kept of the diseases treated, and show the amount of work done in this particular branch.

5. I could not speak too highly of the Matron, Miss Micklethwaite, and Miss McLeod, of the Nursing Home, who acted as Matron during the absence of the former, for the excellent work they performed at the King-Harman ward, and the assistance which they rendered to me at all times.

W. RENNER,

*Medical Officer I/C.*

KING-HARMAN WARDS.



14.—NURSING HOME.

This institution was under the management of Miss Stevens for the greater part of the year, and during the last two and a half months Miss McLeod was in charge.

There were 50 cases admitted during the year, an increase of 8 over the previous year.

The number of patients treated during the past seven years, with the number of deaths, were as follows :—

		1903	1904	1905	1906	1907	1908	1909
Cases ...	...	76	90	79	59	66	42	50
Deaths	...	nil	nil	3	2	4	3	1

The patients were derived from the following classes :—

Government	{	Railway Department	10	}	13
Employés	{	Other officials	...		
Commercial Firms	...	...	...	...	23
Shipping	...	...	..	...	9
Missionaries	...	...	...	...	3
No occupation	...	...	...	...	2
					<hr/> 50 <hr/>

The diseases met with were as follows :—

Alcoholism (Delirium Tremens)	...	...	1
Blackwater Fever	...	...	4
Carbuncle	...	...	1
Debility...	...	...	1
Dysentery	...	...	2
Enteric Fever	...	..	1
Fracture (of arm)	...	...	1
Hernia (scrotal)	...	...	1
Gastritis	...	...	2
Gunshot wound	...	...	1
Insolation	...	...	1
Lachrymal Fistula	...	...	1
Malarial Fevers (exclusive of Blackwater Fever)	...	...	29
Neurasthenia	...	...	1
Pleurisy	...	...	1
Ptomaine poisoning	...	...	1
Whitlow	...	...	1
			<hr/> 50 <hr/>

There was one death due to Blackwater Fever.

RECEIPTS AND EXPENDITURE.

Receipts	...	...	...	...	£168	6	10
Expenditure	...	...	...	...	896	9	7
Deficit made up by Government...					681	11	1

It will be seen that the Firms and Shipping contribute well over half the number of patients treated in the Home, Government officials a little over a third of the number. The latter are chiefly second class Railway Employees, Platelayers, Drivers, Fitters, &c., their illnesses being, in the majority of cases, due to greater exposure and more irregular habits of living than others. During the year the European Nursing Staff had some very arduous times as it frequently happened that several critical cases were admitted about the same dates, but I am pleased to report that they at all times performed their duties cheerfully and efficiently, and to the satisfaction of all concerned.

### 15.—THE GAOL.

(By DR. J. S. PEARSON.)

The daily routine has been carried out as in former years. The average number of prisoners both male and female was 209. During the quarter ending June 30th there was a slight epidemic of Beri Beri, which attacked six prisoners, four died of the disease and two recovered.

Owing to a prisoner being sent from an out-station, namely Waterloo, and developing Chicken Pox during his stay, two of his cell companions were infected with the disease.

These were the only epidemics that occurred during the year.

A number of prisoners are suffering from diseased hearts and therefore are only able to do light labour.

Ten deaths occurred during the year from the following diseases :—

Beri Beri	...	...	...	...	...	4
Heart Disease	...	...	...	...	...	2
Strangulated Intestine "Volvulus"	...	...	...	...	...	1
Tuberculosis	...	...	...	...	...	2
General Debility	...	...	...	...	...	1

Eleven executions took place, the great number of the condemned prisoners were sent from the Protectorate.

The general sanitary condition of the Gaol, such as cells, compounds, &c., has been kept up to the standard of former years, the Gaol compounds, quarters for Warders, and yards have been kept scrupulously clean.

During December quarter the cells and out-buildings have been white-washed.

The chief diseases treated were : Dysentery, Beri Beri and Heart diseases.

For Statistics *vide* Tables.

The food supplied by the Contractor on the whole has been good, and the water supply is also good.

The Attendants' and Warders' health has been good, very few have been ill.

A temporary block of cells has been built on a new site at the western end of the town, on which a new permanent prison is to be built. It is now occupied by over 100 prisoners and thereby has greatly relieved the old prison, which lately has been at times dangerously over-crowded.



## 16.—KISSY INSTITUTIONS.

(By DR. W. F. CAMPBELL.)

*Lunatic Asylum.*—There were 113 inmates at the beginning of the year and 30 admissions during 1909, a total of 143 under treatment. Of these, 7 were relieved and discharged to the care of their friends, one not relieved was transferred to the West Indies, and 26 deaths occurred, leaving a total of 109 at the end of the year. From the number of admissions it will be seen that there was an increase of 5 above the previous year. 4 patients were placed under observation, but as they exhibited no mental trouble were discharged. There was no case of accident during the year; only one instance of cruelty by a female Attendant, to an inmate, occurred, this was brought to the notice of the Principal Medical Officer and the Attendant was suitably punished. None of the inmates absconded during the year, I attribute this to the great care exercised by the staff.

One case of Trypanosomiasis was admitted, the cervical glands were enlarged and there was found no puncture to certain trypanosoma, bodily condition on admission was very poor and the patient died a few weeks after. The remainder of the deaths were due to Epileptic Exhaustion, Pulmonary Tuberculosis, General Dropsy, Asthenia, Angina Pectoris, Anæmia, Exhaustion, Strangulated Hernia, Phthisis, Intestinal Obstruction, Enteritis, Paralysis of the insane, Paralytic Exhaustion, Apoplexy, Dysentery and Bright's Disease.

A number of male lunatics, who are lucid and physically fitted, are employed in attending to the vegetable garden and do sanitary work. All rubbish heaps are removed and the rubbish disposed of by burning or burial. Excreta being dealt with in a trenching ground in a suitable site outside the buildings. The female lunatics who are mentally fitted, do the washing and mending of the clothes of the patients in the Asylum.

Both male and female lunatics are always in charge of reliable Attendants.

## Recapitulation :—

Remaining in the Asylum at the beginning of the year	...	...	...	...	...	113
Patients admitted during the year	...	...	...	...	...	30
Patients relieved and discharged from the Asylum	...	...	...	...	...	8
Died	..	...	...	...	...	26
Patients placed under observation who showed no signs of insanity and were discharged to the care of their friends by order of the P.M.O	...	...	...	...	...	4
Remaining in the Asylum 1/1/10	...	...	...	...	...	109

*Changes in the Staff:*—Assistant Matron H. Peters appointed 13th January, Labourer Adams dismissed 31st March, Labourer Thomas Bailey appointed 6th April, Assistant Matron Thomas resigned 31st July, Assistant Matron Johnson appointed 1st August.

*Female Incurable Hospital.*—At the beginning of the year there were 36 patients, 51 were admitted during the year and 40 discharged, and there were 18 deaths, due chiefly to Exhaustion, old age, and Syphilis, remaining in Hospital, 1/1/10—29. This Hospital is very old and requires reconstruction.

A nurse is in charge of the inmates and the general cleaning and sanitary work is done by two labourers.

*The Garden.*—During the year the garden was not very profitable, owing to insects destroying the plants.

Vegetables sold amounted to £4 9s. 1d. as against £7 19s. 6d. the previous year.

*Male Incurable Hospital.*—This old building was occupied by 78 patients during the year, there were 75 admissions, the total number of deaths was 45, chiefly from old age, Syphilis, Paralysis and Exhaustion. 37 patients were discharged, 71 remaining in Hospital.

Recapitulation :—

Remaining in Hospital at the beginning of the year	...	...	...	...	78
Patients admitted during the year	...	...	...	...	75
Patients relieved and discharged from the Hospital	...	...	...	...	37
Died	...	...	...	...	45
Remaining in Hospital 1/1/10	...	...	...	...	71

There were 6 Lepers at the beginning of the year and 2 admissions during 1909, making a total of 8 under treatment.

The varieties are :—

Nodular Form	...	...	...	...	4
Anæsthetic Form	...	...	...	...	4
					<hr/>
					8
					<hr/>

This disease has been dealt with in a separate Report.

*Lazaretto.*—During the year 30 Kroo boys were admitted and placed under observation for 7 days owing to an out-break of Small Pox on board the S.S. “Addah.” No outbreak of the disease occurred during their detention. I attribute this to the prompt and energetic measures adopted by the Principal Medical Officer in sending the Public Vaccinator to vaccinate the whole of the Kroomen, and special constables on duty at the Lazaretto, and which have had such satisfactory results.

The whole of the men were vaccinated successfully.

I have again to call attention to the necessary repairs which are required to be done to the building. The steps leading to the upper floor need immediate repairing, and the dry pack walls inclosing the compound require mending.

*Small Pox Hospital.*—During the year there were 11 cases of Chicken Pox and 1 of Small Pox admitted. There were no deaths, all discharged cured.



*Vaccination.*—During the year under review 157 children were vaccinated, 127 successful, 19 unsuccessful, 11 not seen.

*Dispensaries.*—During the year there were 1,445 out-patients seen at the Kissy Dispensary, as against 1,223 the previous year; subsequent attendances coming up to 1,298.

640 Out-patients were seen at the Wellington Dispensary as against 517 the previous year; subsequent attendances coming up to 540. The prevailing diseases were Rheumatism, Constipation, Ulcers, Bronchitis, Diarrhoea and Malarial Fever (Benign Tertian).

Both at Kissy and Wellington there has been a marked increase of attendances, but unfortunately the people are very poor and most of them can ill afford to pay the small fee of 3d. The amount collected during the year is £2. 5s. 3d.

*Sanitary Conditions of Wellington Village.*—The sanitary condition of this village is exactly as it has been for years, no improvement has taken place. No attention is paid to sanitation, neither in dwellings nor their surroundings, conditions that to the intelligent mind should be pregnant factors in causing and disseminating disease. In the interest of the public safety I would suggest that the Headman be asked to see that the village is kept clean. The sanitary condition of the village leaves a lot to be desired, and to this state of affairs the Headman's attention might be drawn.

The total number of attendances of all classes of Government officials residing at Cline town, Kissy and Wellington during the year are as follows:—

Europeans	...	...	...	...	...	51
Natives	...	...	...	...	...	86
						—
						137
						—

Six European officials of the Sierra Leone Government Railway were sent to the Nursing Home, Freetown, during the year:—

- 1 for Intermittent Fever (Benign Tertian).
- 1 „ Septic Wound of Thumb.
- 1 „ Phthisis.
- 1 „ Diarrhoea and Debility.
- 1 „ Plenrisy.
- 1 „ Blackwater Fever.

*Cline Town*—I would respectfully submit for your kind consideration the work at Cline town which is increasing year by year, at present there are not less than 21 European officials of the Sierra Leone Government Railway residing there, besides several native officials with their families; for the safety of their lives in urgent cases demanding immediate medical attendance it is necessary that a medical officer should reside at Clines. The present arrangement whereby the medical officer at Kissy is made responsible for the health of the officials at Cline town involves a good deal of risk and delay in treatment owing to the distance between Kissy and Clines. Further, the medical officer at Kissy may be engaged in such duties as would prevent him from responding to urgent calls from Cline town, or, he may be on duty at Wellington or attending Coroner's inquests in any part of the district.

I trust that this part of my Report will have your support and kind recommendation.

## 17.—SHERBRO.

(By Dr. J. F. WARD.)

*Changes in Administration.*—Dr. Hunter was in charge of the district till the 11th October, when he was relieved by Dr. J. McConaghy, who in turn was relieved by myself on the 13th December, 1909.

Dispenser Short resigned his appointment in June and was succeeded by Dispenser J. P. Metzger. Apprentice J. Fewery left for Freetown to undergo his examination on December 23rd, and was succeeded by Apprentice J. Doherty. Female Nurse Johnson has worked here throughout the year and given satisfaction.

*District Staff.*—The District Staff is composed of the District Commissioner, two Assistant District Commissioners, and the Medical Officer.

*Health of European and Native Officials.*—The health of the European officials has been good.

The health of the Native Officials has not been as good as last year. The attendances for treatment numbered 210, as against 140 last year, or an excess of 70.

*Non-Official Europeans.*—On an average about 25 Europeans are employed by the mercantile firms here, and on the whole they enjoy good health considering the time they are kept in this country. One of the white assistants died up river in the early part of the year from sequelæ of Extravasation of urine.

*Hospital Buildings.*—The Hospital Buildings have been kept in a fair state of repair during the year, with the exception of the Dispenser's quarters, which are in a rather dilapidated state. The provision of a detached ward, connected with the main building by a covered way is necessary owing to the number of cases of a syphilitic nature presenting themselves. The capacity of the Reservoir has also proved inadequate this year owing to the foundations of the same being carelessly laid. It would be well were a well sunk in the Hospital compound as a source of reserve supply.

*Operations.*—There were 9 operations performed during the year under review as follows :—

Amputation of Elephantoid Scrotum	...	...	...	2
Reduction of a dislocated Wrist	...	...	...	1
Scraping a tuberculous Gland	...	...	...	1
Radical cure of Inguinal Hernia	...	..	...	2
Removal of Epulis	...	...	...	1
Amputation of leg for Syphilitic Ostitis	...	...	...	1
Amputation of middle finger of left hand	...	...	...	1

There were no deaths resulting therefrom.

*In-patients.*—There were 232 admissions of in-patients during the year, *i.e.*, 47 in excess of last year.



*Out-Patients.*—The out-patients numbered 2,652 or 157 more than last year, with old cases.

*Deaths.*—There were 10 deaths in Hospital classified as under :—

Tubercle	...	...	...	...	...	2
Unclassified	...	...	...	...	...	2
Digestive System	..	...	...	...	...	2
Circulatory System	...	...	...	...	...	1
Nervous System	...	...	...	...	...	1
Connective Tissue	...	...	...	...	...	1
Parturition	...	...	...	...	...	1
						<hr/> 10 <hr/>

*Small Pox Hospital.*—No cases were admitted to this institution during the year.

*Epidemics.*—With the exception of a mild epidemic of whooping cough during the latter part of the year, there have been no epidemics. 102 cases of the above disease sought treatment.

*Vaccination.*—During the course of the year 1,289 vaccinations were performed of which 1,285 proved successful. A particularly good record I consider.

*The Gaol.*—The yard and cells of the gaol are kept clean, but as in former years the cell accommodation proved totally inadequate at times. Bi-weekly visits are paid.

*Official Visits.*—His Excellency the Acting Governor visited the Hospital on November 30, and the Bishop of Sierra Leone on September 4, the Principal Medical Officer visited the Hospital on May 18, 1909.

*Sanitation.*—The sanitation of the town is attended to by the Port of Sherbro Municipal Board, and on the whole they keep the town fairly clean, though lately I have noticed a laxity on the part of the Official Inspectors.

All meat is inspected by the medical officer both before and after slaughter.

*Hospital Fees.*—Hospital fees totalled £33. 9s. 3d., or an increase of £8. 10s. 2d. over last year.

# PROTECTORATE DISTRICT REPORTS.

## KARENE DISTRICT.

### 18.—HEADQUARTERS—BATKANU.

(*By* DR. J. C. MURPHY.)

For the first half of the year Dr. Wood-Mason was in charge, on June 17th he handed over to me. The Headquarters are situated near the river Mabole on rising ground surrounded to a varying extent by swampy ground according to the season of the year, *i.e.*, wet and dry season, mosquitos and tsetse flies abound more or less throughout the year. Owing to the configuration of the country in the immediate neighbourhood, the current of the river is very sluggish, hence the tendency in the rainy season to the overflowing of its banks and the formation of swampy areas with stagnant pools. The question of the prevention of these pools is a difficult one to solve, and it would certainly be an extensive undertaking. There has been a fairly large area of bush clearing done lately with marked benefit in the way of lessening the number of mosquitos and tsetse flies which were formerly more numerous. A continued clearing of bush around the station has been arranged for with the Chief, together with the ordinary sanitary measures as regards the cleaning of compounds and removal of rubbish, &c.

The Water supply is very unsatisfactory, being obtained from the river which is known to be liable to contamination by the neighbouring towns and villages, however, all precautions as to purification by filtering, boiling &c., are invariably taken by the Europeans who have to use it. A new prison has been built at Batkanu during the past year, which is a well built and well contrived building, containing the usual cell and out-office accommodation.

The Court Messengers' Barracks and Prison are inspected weekly, and are kept in a fairly good sanitary condition. The Hospital and Dispensary building is in good condition. There were only 5 in-patients treated during the year, with one death due to Pyaemia, this small number is accounted for by the sparsely populated country around the station. There were 1,110 out-patients treated, being 189 more than the previous year.

Dispenser John was relieved by Dispenser Betts in May.

There have been no cases of serious illness among the 7 Europeans who were resident for varying periods during the year, and only a few mild attacks of fever were recorded.

The Court Messengers, Prison Warders, &c., have suffered from the usual troubles of natives to a lesser degree owing to their more regular life and healthier surroundings, foot sores in the rainy season, and respiratory diseases, especially in the Harmattan season are the principal diseases suffered from. Rheumatic pains are also fairly common.



The sum collected from Out-patients was £8. 5s. 9d. Medical comforts sold, £2. 3s. 7d.—Total Receipts £10. 9s. 4d.

Number of Europeans on Sick List ...	...	1
„ Native admissions on Sick List		60

The chief diseases of the district are :—

Rheumatism.  
Respiratory diseases.  
Syphilis.

Only three cases of leprosy were reported in the District. No case of Trypanosomiasis was met with during the year, but the neighbourhood of Batkanu is full of tse-tse flies and the whole District appears to be a suitable place for their increase. Owing to the large area of the District, approximately 7,500 square miles, and the fact that the Medical Officer has to remain at Headquarters in order to perform administrative duties (Deputy District Commissioner) for nearly six out of the twelve months, it is impossible for him to visit more than a small portion of the District during a tour. The country is full of rivers and all those I know, as a result of my patrols, are infested with tse-tse flies, a large number of which I have collected and sent to the British Museum and other places. I hope that the much needed clearance of bush around at least the main ferries will soon be taken in hand according to the instructions issued by the District Commissioner on my advice.

There were 303 successful vaccinations performed during the year; these were the cases actually inspected after vaccination, but owing to a large number not coming in for inspection probably a much larger number were successful as the lymph supplied was of excellent quality, and more persons would have been vaccinated, but owing to the performance of administrative duties at Headquarters, as already stated, I was unable to patrol the District for this as well as other purposes.

## RONIETTA DISTRICT.

### 19. HEADQUARTERS—MOYAMBA.

(BY DR. J. JACKSON-MOORE.)

Moyamba is situated on the railway line 76 miles from Freetown. The District now includes the Timne portion of the Central District (abolished), although administered by an Assistant District Commissioner. The duties of the Moyamba Medical Officer include aid to all Railway Officials from Songo to Bo, a distance of about 100 miles, including the tram lines.

*European Officials.*—Average number was 9. The number on Sick List was 6, with an average of  $3\frac{1}{2}$  days; this is quite a satisfactory record.

*Native Officials.*—Number on Sick List was 25, with an average of 9 days, also satisfactory.

*Deaths.*—There were none during the year amongst Officials or any serious sickness necessitating invaliding.

*Total Patients.*—Out-patients are recorded as 3,563, in comparison to 2,008 in the previous year.

In-patients as 38, in comparison to 16 in 1908.

The principal ailments complained of by the Out-patients were Malaria, Rheumatism, Worms, Constipation, Ulcers, Diarrhœa, Bronchitis and Vague pains.

The total Revenue from the sale of medicines was £7 8s. 6d. in comparison to £1 14s. 8d. in the previous year.

It has been stated that a nominal charge for medicines in the Dispensary would lessen attendance ; this in my experience is incorrect, and is not borne out by statistics. It has been my principle to request some payment, except when there is evidence of visible poverty, in order to imbue the natives with a spirit of independence and self-reliance ; very few of the hinterland natives cannot afford threepence to a shilling for medicines ; it is only too often cropping up that extortionate fees are paid to the cunning native quack.

*Hospital Compound.*—About  $1\frac{1}{2}$  acres in area, is situated on the right-hand side of the main road to the town, opposite the Gaol and adjoining the Court Messengers' new Barracks ; it contains two Hospitals, Mortuary, Kitchen, and Latrine house. The Government Hospital is a wooden structure, roofed with corrugated iron, divided into a ward capable of holding four beds, medicine room, store and consulting room. This building is raised about two feet off the ground and, as a Hospital, is not viewed with favour by the native community owing to the thermic changes—scorchingly hot and stuffy in the day time and chilly during the early hours of morning. Under such circumstances this type of Hospital is not a success, even the drugs are subjected to the same variation of temperature. The second Hospital is of a round native type, capable of holding comfortably six beds ; it was built and presented by the sub-chiefs of Moyamba to myself, as a recognition of services rendered to their people for surgical work done after my arrival here. It is the only instance I have known native gratitude to be shown in this manner. This Hospital has been of great aid in the treatment of post operation cases, it is easily kept clean, inexpensive, not subjected to great variation of temperature, and as near as possible resembles their own dwellings ; in fact it meets the present requirements of bush surgery.

*Operations.*—The number of operations performed was 52, of which 20 were major, this includes 18 Scrotal Elephantoid Tumours. The tumours varied from 20 to 110 ozs. and 4 were complicated by Hernia. There were 4 deaths following these operations, one from shock, one from alcoholic liver and spleen, two from mental derangements. The mental symptoms began in one six days after operation, with hallucinations, twitchings and muscular spasms, in the other case symptoms appeared four weeks after in the form of melancholia ; in both cases the testicles were left intact.

I am unable to find any previous records of major surgical work done at Moyamba.

I am of opinion that great services could be rendered to the Protectorate tribes by erecting a Central Hospital or Hospitals for surgical work, thereby benefiting a class of deserving primitive people, capable of showing gratitude.

*Prison.*—A new Gaol of masonry is in course of construction and will be of great benefit to the station.



*European Officials' Quarters.*—That of the District Commissioner is overlooking the Railway station and town, on a favourable site. The barrack-like quarters, formerly occupied by Officers of the Frontier Force, is now utilised by the Assistant District Commissioner and Medical Officer, with the central rooms as a rest house.

This building has been condemned for some years past and is in great need of repairs. Owing to the position of site, unprotected verandahs, heavy and damp sub-soil, I consider it one of the most unhealthy quarters in the Protectorate.

The quarters occupied by the European Staff of the Sierra Leone Government Railway have nothing special to recommend them. The question of better accommodation for European Officials at Moyamba deserves the Government's attention.

*Rest House.*—The fact that this rest house is situated between residential quarters, with common verandahs, is scarcely fair to those stationed there. It excludes privacy and has, during my time, been the cause of looting by strange carriers entering what might be termed a private compound. This arrangement has other drawbacks.

*Barracks.*—Messengers' quarters. In consequence of unfavourable surroundings and over-crowding, a new barracks on the opposite side of the main road has been erected. The site and type of houses are satisfactory.

*Water Supply.*—The town has a plentiful supply, which is very liable to contamination owing to dwellings and the habits of the Mendi people. This supply is used by all except the European Staff and Hospital.

The latter received a daily supply from a mountain spring about three miles from town; it is conveyed in aluminium jars and affords an excellent supply of pure water. This arrangement came into force about six months ago. This water is distributed for the most part by prison labour and when the Government can afford to lay pipes a great boon will be conferred on the entire community.

*Sanitation.*—The pail system is in force in the European and Sierra Leone Officials' quarters and works well. The native town, with the exception of a few sunk closets, has no system. Sanitation in the Government lines is carried out by the prisoners, whose duties this year have been exceptionally heavy owing to blasting operations for the new gaol.

Moyamba Town had been allowed to become greatly neglected presumably due to the fact that the Paramount Chief is a chronic invalid; all animals were permitted to roam about and work great havoc in the town, gutters unkept, refuse deposited within the town, and no clearing of bush around it. After a period of six months' persistency I have endeavoured to stimulate the sub-Chiefs into activity; all the animals have been dealt with, old gutters closed or repaired and new ones made, the streets have been seen to, all refuse removed and burnt, clearing of bush around the town for a distance ranging from 30 to 60 yards has just been completed; also a road six feet wide has been constructed on the outskirts of the clearing, this road enables the inhabitants to walk round the entire town. They have promised to fulfil health requirements by allowing no refuse or dirt to remain within this circular road.

His Excellency the Acting Governor has kindly promised 12 sanitary bins in order that all refuse may be cleared from within and burnt or destroyed at convenient centres.

I am convinced that, with a little supervision and encouragement, Moyamba in a short time will be a creditable Mendi town. At first some of the residents brought forward objections, which after explanations were over-ruled by the sub-Chiefs ; and now the people are glad and realise the great benefits derived from this sanitary scheme. Undoubtedly the native mind is conservative, but one is struck by their practical minds and quickness to grasp an idea or scheme which will benefit them.

*Burial Grounds.*—I pointed out the unhealthy atmosphere produced by graves in near proximity to dwellings ; this they admitted, and have carried out the sanitary scheme even in these areas. They have also promised to bury their dead at greater distances from habitations, and as long as the sanitary belt and circular road remain it will be an easy matter to carry out.

*Vaccination.*—During the year 811 persons have been vaccinated, 728 successfully ; this excellent result is due to active lymph and careful preparation and scratchings.

*Sanitary Reports.*—Four have been forwarded by me to Freetown. They covered a fairly wide portion of this district, and briefly the procedure was as follows :—In the town Barri, in the presence of the Chief and as many of the people as possible, I lectured in simple language for a period of half to three-quarters of an hour on—

Sanitation.	Leprosy (isolation).
Vaccination.	Elephantiasis operations.
General Sickness.	Blood sucking flies and disease.

Then followed a tour of inspection of the entire town, pointing out sources of sickness and issuing all possible suggestions for the benefit of town and people.

I am convinced that this is the best policy to ensure success, and the more people who hear what the Government doctor has to suggest for their health the better probably will be the results.

Towns visited :—

Mano	Moyopo
Tiama	Masaku
Godama	Jagbewema
Yelli	Jajebu
Tinehun	Gbangbayer
Morsalpeh	Sembehun
Mocobo	Kogbotima
Falaba	Giayah
Kwellu	Jalla
Gbangbama	Mossellulu
Gbangbatuke	Bendoma
Gbengelul	Doodoo

In conclusion, it would be hard to estimate the enormous benefit to these primitive inhabitants by the successful carrying out of the Government Sanitary scheme, a unique opportunity for the West African Medical Staff officers, in conjunction with the District Commissioners.

I discovered a singular abnormality in an Elephantiasis Scroti, namely, two testicles firmly adhered together and both cords passing up through the right inguinal canal, and in a second patient ante-mortem decomposition in spleen with schirrotic liver, in 24 hours after operation for Elephantiasis Scroti.



## KOINADUGU DISTRICT.

## 20. HEADQUARTERS—KABALLA.

*(By Dr. C. H. ALLAN.)*

With the exception of the last three weeks, Dr. Orpen has been in medical charge of the District throughout the year.

The health of the Officials has been very good, none of the European Officials being placed on the Sick List ; with the exception of one ex-Court Messenger, who died of heart disease, after leaving the Hospital against the Medical Officer's wishes, there was no serious illness amongst the native Officials.

A large number of patrols have been undertaken for the purposes of vaccination, leprosy investigation, and attending to the general sanitation of the towns. There is no doubt that the greater cleanliness of many of the larger towns is due to these patrols.

There were 443 vaccinations performed, but 329 were not seen a second time ; still, as there were only 3 unsuccessful cases amongst the 114 cases seen a second time, one naturally supposes that there were over 400 successful. This number is only about one-tenth of the number that should be vaccinated yearly, except that the district is, owing to the appalling epidemics of from 4 to 6 years ago, more protected than other districts in the Protectorate. Coming from the Mendi or Timne country one notices what a much greater proportion of Kurankos, Limbas, and Yalunkas are pock-marked. The longer dry-season, accompanied by stronger winds, is probably a cause of greater frequency of Small-pox in this district than in the country near the sea. However, apparently, no cases have occurred in the District during the past three years.

One case of Sleeping Sickness was observed, and though tse-tse flies are common, bites from these are apparently innocuous. Leprosy is fairly prevalent, but these have been dealt with recently in a report from Dr. Orpen.

Referring now to Kaballa, the Headquarters of the District, the chief item of interest is the removal in November of the Company of the West African Frontier Force to the Moa River. This was mostly brought about by the difficulty in feeding an alien population of over 300 in a country which is not thickly settled, which produces little rice and no palm oil. The latter, largely used as a food necessary, of valuable anti-scorbutic power, has to be imported from the Timne country.

The water supply, always one of the best in the Protectorate, has been further improved by fences and surface drains which have been cut on the ground level.

A slaughter-house and meat barri, with inspection by the Medical Officer, are innovations of this past year. This has prevented the old noxious plan of slaughtering animals on ground often highly contaminated, and the keeping of the carcase in an ordinary dwelling house. It has largely contributed to the abatement of the fly nuisance. Another reason for fewer flies is that in Kaballa, as well as in several of the other large towns, the people are beginning to

realise that proper cow-sheds, erected at some distance from the town, are better than the old plan of tethering the cows in the main streets. This, however, is still the custom in all the smaller towns.

*Hospital and Dispensary.*—These are situated between the Clerks' houses and the Barracks, and since the latter have been untenanted it is difficult to get sick persons to come into Hospital.

The In-patients numbered 57 during the year, an increase of 6 over the previous year, the only death being the case of Trypanosomiasis, already referred to. The Out-patients numbered 968, a decrease of 455 over the previous year; this is partly due to the better health of the "Frontiers," but also to the fact that the native town of Kaballa has been throughout the year about half the size as formerly, the Kurankos who occupied this portion of the Limba country having gone back to the place from which they originally came. Amongst the non-Officials an increase of over 100 per cent. in subsequent attendances tends to show that the natives are becoming more appreciative of European treatment.

Meteorological observations have been kept throughout the year; the highest maximum shade temperature registered was 99 degrees in February and the lowest minimum of 40 degrees in January. The average "Relative Humidity" at 5 p.m. was 81·6 per cent.; this is probably too high, owing to the wet bulb not being properly adjusted. The rainfall of 135·2 inches was quite 30 inches above the annual average.

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## RAILWAY DISTRICT.

### 21. STATIONS—DARU AND KENNEMA.

(By DR. W. A. ALEXANDER.)

#### DARU.—HEADQUARTERS OF THE W.A.F.F.

*Attendance at Hospital.*—Out-patients 1,522, including 780 subsequent attendances during the year.

*In-patients.*—137, with two deaths due to Pneumonia and Pulmonary Tuberculosis respectively, both patients were Frontiers. On the whole the health of the troops has been fairly good; the greater number of cases treated in the Out-patients' Department and in Hospital being due to Intermittent Fever, Rheumatism, Gonorrhœa, Digestive disorders and minor wounds.

*Hospital accommodation.*—The present native structure suffered severely during the past rainy season; on two occasions it was uprooted in the middle of the night and the patients drenched in their beds. As new barracks are at present being erected for the reception of two more companies of 100 men each, the present condition of affairs will become impossible unless a start is made shortly with the proposed permanent building.

*Health of Officials.*—This has not been particularly good, due I think to the excessive prolonged and severe rainy season; 8 European and 4 Native Officials were placed on the Sick List for a total period of 85 and 48 days respectively. One European Officer was invalided home three weeks before the end of his tour suffering from Malarial Fever.

*Death.*—I regret to have to record the death of Foreman Platelayer Francis from Apoplexy on June 26; he had not been on the Sick List.



*Vaccination and Small-pox.*—No cases of Small-pox were observed throughout the year ; 253 persons were vaccinated. The lymph was always of good quality.

*Relief.*—Dispenser Frazer was relieved by Dispenser Johnson on the 17th December.

*Sanitation of Barracks.*—This has been satisfactorily attended to, the men's latrines regularly inspected, non-combustible rubbish disposed of in pits, and bush undergrowth well cleared. Two cesspits (condemned as insanitary by the P.M.O. on his visit of inspection) formerly in use by the Officers have just been done away with and four pail closets substituted, these are emptied twice daily and disposed of for the present in the men's cesspit, but a small pier is to be built into the river at a suitable spot to enable the sanitary gang to empty the pails directly into a strong current.

*Water Supply.*—This has been satisfactory throughout the year.

*General.*—I wish to draw attention to the fact that the distance between the Dispenser's house and the Hospital is over a quarter of a mile, and several times when urgent cases have come in great delay has been caused before proper assistance has been rendered.

## 22. KENNEMA.

*Health of Officials.*—There was no case of sickness among European Officials during the year ; there was no case of serious illness among native Officials, but there was a good deal of Anæmia and Debility arising from the extraordinary difficulty of obtaining fresh food of any description during the greater part of the year. One Court Messenger was invalided suffering from Hemiplegia.

*Water Supply.*—Excellent. Pipes have been laid on to the District Commissioner's bungalows, the Gaol, Clerks' and Court Messengers' quarters.

*Dispensers in charge.*—O. E. Nylander and T. L. Hooke ; the latter was in charge during the greater part of the year.

*Gaol.*—The new stone Gaol has been completed, with accommodation for 50 prisoners. Kitchen, bath and lavatory arrangements are all satisfactory. Two deaths occurred, one from Dysentery and the other from Peritonitis. Altogether 478 cases were treated, mostly of minor ailments which would never have been reported had not the patients been in confinement at the time. No epidemic occurred during the year ; sanitary precautions were carefully and regularly attended to.

*Attendance at Hospital.*—2,203, including subsequent attendances and those from the Gaol.

*Scarcity of fresh Food.*—Considering the size and importance of Kennema it is difficult to explain the famine-like conditions that obtain there at all times of the year. Two native Officials have assured me that for two days they could obtain no fresh food except cassava leaves. Once, it is true, three cows were killed in quick succession. The Dispenser's suspicions were aroused, and he informed me that when he inspected the third cow it was a mass of disease. Acting on his information I drew up a set of regulations to be observed in future slaughterings, but matters immediately relapsed into their old groove.

RAILWAY DISTRICT (*continued*).

## 23. STATION—BO.

(*By* Dr. H. E. ARBUCKLE.)

The station has been in charge of Dr. Allan from February till the end of June, the rest of the year in my charge.

The number of Officials in and about Bo is : Europeans 13, Sierra Leoneans 44, natives 209, and schoolboys 110, a total of 376. The health has been good, only 130 days being lost through sickness by the permanent staff.

*Out-patients.*—The number of Out-patients for the year was 1,158, an increase of 318 over last year.

*In-patients.*—The In-patients numbered 52, being 24 less than last year ; there was one death from perforation of the intestine.

*Hospital Accommodation.*—The Hospital accommodation is still very poor, there being only one mud native house, which is very dark and has seven wooden beds. The patients have to bring their own beds, clothes and food, and also somebody to cook for them. These conditions are a deterrent to most natives, especially the poorer ones, from obtaining Hospital treatment.

*Operations.*—There were 10 operations under chloroform, these included :—

Inguinal Hernia (Radical cure) ...	...	...	3
Elephantiasis Scroti ...	...	...	1
Dilatation of Urethra ...	...	..	1
Circumcisions ...	...	...	2
Opening Abscess... ..	...	...	2
Tapping Bladder suprapubically	...	...	1
Dermoid cyst removal under local anæsthesia			1

A portion of the Dispensary, a wood and iron building, has two iron beds in it, which were sent here to form a ward for Europeans, but as there is no latrine or kitchen, or any provision made for feeding the patients, it is obviously unsuitable as a Hospital, even leaving out of account the fact that it is the only place where the surgical instruments, dressings, poisons and books can be stored, and also that it is used for the clerical work of the Dispensary.

Professor Simpson, accompanied by Dr. Kennan, paid a visit to Bo, and was not very favourably impressed with the bungalows of the Officials and the water supply. The bungalows, he says in his report, are unfit for human habitation, much of the flooring and joists of the houses have dry rot and need repairing. The water supply is still very bad ; the tanks, with a total capacity of 10,600 gallons, now that the Railway Department have supplied each of the houses occupied by Railway Officials with a tank, are obviously inadequate for the use of the Officials, especially as the trading firms have also a right to be supplied with water by the Government. To increase the supply of water, 80 aluminium water carriers of 5 gallons' capacity have been sent here, and during the dry season they are to be sent to Kennema by train to be filled with water and returned to Bo. This will be done three times a week for perhaps three months, and will no doubt be expensive. The sanitary arrangements here consist of outside earth closets, which are emptied every night in a trenching ground near the railway. There is a sanitary gang of 11 men and 1 headman who empty the latrines and keep the European Compound clean.



The Sanitary Inspector and Carpenter were dismissed at the latter end of the year, on the recommendation of His Excellency the Acting Governor, as being a needless expense.

The children at the Bo school are healthy, and are increasing in numbers. Their houses in their own compound are too near the European quarters, being much less than 200 yards from the nearest European official's house. The children obtain their water from a well at the head of a swamp, and if the coming dry season be prolonged, I doubt if the supply will be large enough for their needs. They have two swimming baths, built in the line of the bed of the swamp.

*Vaccination*—Has been carried out diligently, the total number vaccinated in the year being 1,221. The natives round about Bo seem to be a little less afraid of vaccination, and to realise its object and benefit.

*Meteorological Observations*.—The total rainfall for the year has been 119·27 inches : the rainiest months being August, June and July. The highest recorded temperature by the shade thermometers was 99°·2 in March, the lowest 59°·2 in December. The mean maximum shade temperature for the year was 88°·2. Flies have been sent to both the British Museum and the London School of Medicine.

## 24.—WULADE AND KANRE-LAHUN, W.A.F.F. OUT-STATIONS.

(*By* DR. W. A. OJUMIRE-TAYLOR.)

I was in medical charge of Wulade during the year, paying regular monthly visits to Kanre-Lahun. At Wulade two European officials were on the sick list for ordinary fever and congestion of the liver, and five native officials for Malarial Fever. There is a Hospital with four beds, and during the year a total of 231 patients were treated, the most prevalent diseases being Rheumatism, Gonorrhœa, Diarrhœa, Intestinal Worms, Malarial Fever, Bronchitis and Dysentery.

*Water Supply*.—The water supply is satisfactory, being obtained from springs close to the camp.

*Vaccination*—Was continued during the year with success.

There was one death in the Company from Tuberculosis.

*Kanre-Lahun*.—I made regular monthly visits to this out-station during the year. The number of European officials was four, one of whom was on the sick list for fever. Their general health and that of the frontiers was satisfactory.

There was no death. The chief diseases treated being :—Rheumatism, Gonorrhœa, Orchitis, Intermittent Fever, Diarrhœa, Ulcers, minor injuries to feet, and Bronchitis.

The water supply is good, and the general sanitary state of the camp is kept in a satisfactory condition.

## 25.—DISPENSARY DISTRICTS IN THE PENINSULA.

*Regent.*—Dispensers Nicol, Johnson, and Nylander were in charge during the year, relieving each other. Dispenser Nylander reports as follows:—The usual simple ailments were met with, serious cases being sent to the Colonial Hospital on the Dispenser's advice. There were treated:—

New cases	...	...	...	...	... 1,485
Old	,,	...	...	...	... 2,047
					<hr/>
Total					... 3,532
					<hr/>

Vaccination was performed during the year; 139 persons, chiefly children, were vaccinated. The sanitary condition of the villages was fairly satisfactory, and shows signs of improving. The water supply is good, and is obtained from mountain streams running near the village.

*Goderich.*—This branch Dispensary was visited weekly by the Dispenser at Regent. There were 2,742 cases treated. The sanitary condition of the village is fairly good.

*Waterloo.*—This was in charge of Dispenser Luke. This has now become the centre of the new Headquarters district, and there is consequently an increase in the number of Government Employees in the town. The health of all officials was fairly good during the year; of these 336 were treated, and there was no death. The total number of non-officials treated was 3,786. The sanitary condition of the station continued satisfactory. During the year the Sergeant of Police was appointed Sanitary Inspector for the District.

There was one suspected case of Small-pox; strict measures were taken to isolate the case, and there was no further outbreak.

Vaccination was carried out during the year.

The water supply was considerably improved by an increase in public stand-pipes in the town; the source being a spring on an adjoining hill.

*The Gaol.*—The health of the prisoners was fairly good, there was no serious sickness among them; the compound was kept in a proper sanitary condition.

*Hastings.*—This Dispensary was visited bi-weekly by Mr. Luke, from Waterloo. The total number of cases treated was 2,333. The general health was good. There was no outbreak of any infectious diseases. Only ordinary simple diseases were met with. Dr. Burrows visited the station in April. Two new stand-pipes were fixed in the town, thus increasing the supply of good water. The sanitary condition was fairly satisfactory. Vaccination was carried out steadily through the year. There was no case of Small-pox.

*York.*—Dispenser M. O. Frazer took over charge from Dispenser M. P. Neville in December. The water supply is from wells in the village, and is not wholesome.



Vaccination :—

Total number vaccinated	...	...	...	66
„ „ successful	...	...	...	60
„ „ unsuccessful	...	...	...	6

The lymph supplied was good. Only emergency visits were made to the neighbouring village of Sussex.

The number of cases treated was :—

New cases	...	...	...	...	1,182
Old „	...	...	...	...	421
Total	...	...	...	...	<u>1,603</u>

Rheumatism, Yaws, Dyspepsia, Constipation, and Ulcers were met with in large numbers. Dr. Burrows visited the Dispensary in April.

*Mano Salija*.—Dispenser I. H. Wright took over charge from Dispenser Metzger in February. There were 1,612 cases treated during the year. The health of the district was fairly good. The Dispensary was visited by the District Commissioner of Sherbro ; weekly visits to Sulima were stopped in March.

There was no outbreak of epidemic diseases to record during the year.

Vaccination was steadily performed, 171 persons having been vaccinated with a large number of successes.

The sanitary condition of the town was good.

Some repairs of the out-houses were carried out. The Dispensary building is at present in a bad state of repair.

*Dublin (Bananas Islands)*.—Dispenser W. A. McCauley was in charge during the year ; there were 2,492 cases treated. The most prevailing diseases being :—Fever, Yaws, Tertiary Syphilis, Rheumatism, and diseases of the digestive system.

Tertiary Syphilis is present in various forms.

The public water supply is obtained from wells, and is not good. A masonry tank has been provided at the Dispensary in which rain-water is collected. The sanitary condition of the towns has improved ; they are not so over-run with pigs as formerly. There was no case of Small-pox during the year.

Vaccination was carried on, 45 children were vaccinated ; the people do not seem very much in favour of vaccination.

Dr. Burrows visited the station in April and inspected the books, &c. In August the Acting Governor inspected the Dispensary.

*Tombo*.—Dispenser P. J. John took over charge from Dispenser M. O. Frazer in September at Kent, and the Dispensary was transferred to Tombo in November, it being a more central and a more important town.

The sanitary condition of the villages in the district is fair, the prevailing drawback of cleanliness in them being the presence of pigs, which are allowed to roam about.

The water supply is obtained from a stream that flows through the town. The cases treated numbered 1,475.

Vaccination was carried on, there was no Small-pox heard of in the district.

26.—In the Appendices will be found :—

- “ A ”—Papers by Medical Officers.  
 “ B ”—The usual Hospital Returns.

The following is a return showing the number of cases treated free and those cases entitled to medical attendance, with paying patients ; the two latter are given in one figure :—

Officials and Paying patients	...	...	...	11,654
Paupers or non-paying patients	...	...	...	60,906
Total treated				<u>72,560</u>
Actual amount expended on Medicines, &c.				£1,378 11 7
Amount received from paying patients (natives)				71 7 0

The rule is, that all patients who, in the opinion of the Medical Officer, can afford to pay for medicine must pay according to his or her means the sum of 3d., 6d., or 1/- for medicine prescribed.

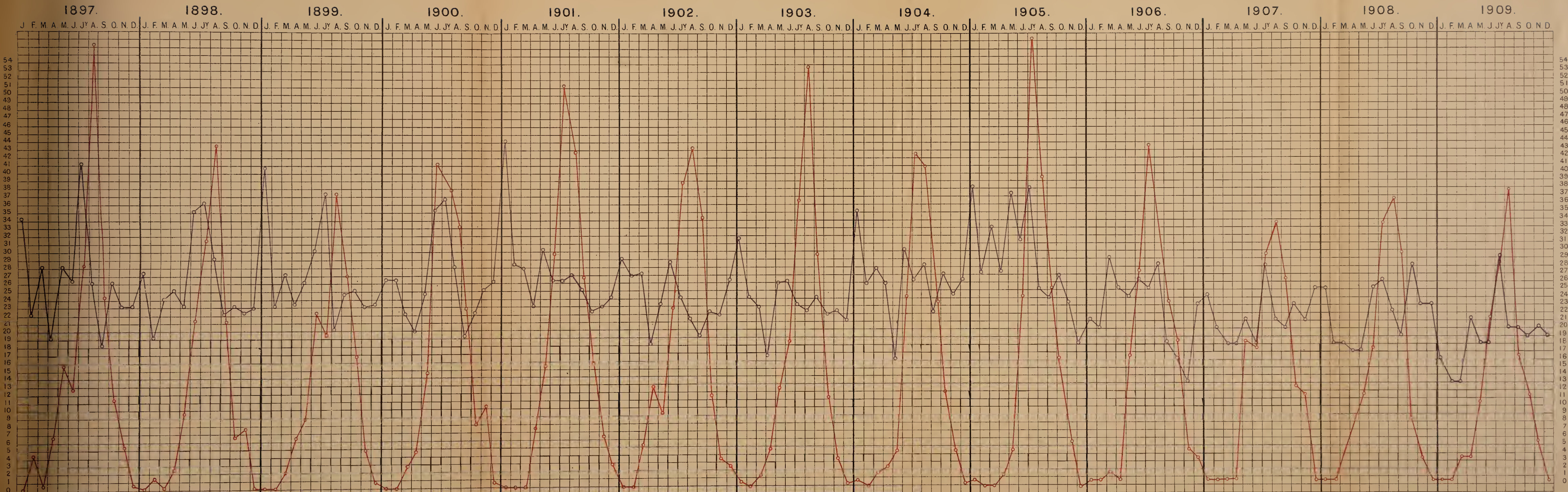
The actual medical work done by the Department during the year shows an increase of 1,613 in the total number of cases treated. This increase occurred chiefly in the Colonial Hospital, where there was an increase of 5,875 cases in the out-patients, and 277 in the in-patients treated, over those of 1908.

Surgical operations at the same institution have also considerably increased in number—from 143 in the previous year to 222 in 1909.

Table 6 in the Appendix shows the variety and large scope covered in the field of operative surgery.

*Sleeping Sickness*.—Though Medical Officers were on the look-out for this disease during the year, only one case was met with, this was Kaballa in the Koinadugu district. Dr. Orpen reported on the case, the patient dying after prolonged treatment. Gland puncture and microscopical examination were not generally practised, so I am not in a position to state with any precision whether the disease is more prevalent in the Protectorate than the finding of only one undoubted case would lead me to expect, but the fact that the *Glossina Palpalis* is found in pretty well all parts of the Protectorate leads to a strong suspicion of its greater prevalence.





WATERLOW & SONS LIMITED, LONDON WALL, LONDON.

CHART SHOWING MONTHLY RAINFALL & MONTHLY DEATH RATE

Death Rate —●—  
Rainfall —●—

NOTE: — Death Rate = 1000 of population.  
Rainfall in inches.







There were 436 cases of Syphilis treated ; this is below the annual average, which for the previous five years has been 610.

From the reports of medical officers leprosy does not seem to be very prevalent, though occasional cases are met with throughout the country.

Only two cases of Small-pox were reported during the year. The regular vaccination practised in the Colony and Protectorate, and the continued efficiency of the lymph obtained from the Liverpool Institute of Preventive Medicine, largely account for the almost entire absence of this malady.

Four cases of malignant new growths were treated, and specimens of them sent to the Cancer Research Committee. Yaws (Frambœsia) does not seem anything like so prevalent in this Colony as in other parts of West Africa ; during the year 151 cases were met with.

I have re-introduced into my report the chart originally started by my predecessor, showing the monthly death rate and rainfall ; it now extends over a period of thirteen years, 1897 to 1909.

R. M. FORDE,

*Principal Medical Officer.*

COLONIAL MEDICAL DEPARTMENT,

FREETOWN, SIERRA LEONE,

*April, 1910.*

## APPENDIX A.

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### PAPERS BY MEDICAL OFFICERS.

#### “THE RELATIONSHIP OF M. F. DIURNA TO F. LOA.”

So much has been said for and against the relationship of m.f. diurna to f. loa that, if we are not to accept the theory that it is the larval form of f. loa, in the absence of the direct proof of the means of infection with a recognized larval form of f. loa, it is hoped that the following corroborative facts will tend to confirm the opinion originally expressed by Manson that m.f. diurna *is* the larval form of f. loa. If the connection between the two is repudiated, equally vague therefore must be the life cycle of m.f. diurna itself. Some observers have found that the blood filaria are not the supposed mature or parent form, while the opposite finding has been the experience of others.

In my own experience I had previously extracted two f. loa from the conjunctivæ of two distinct cases, but in either case was the blood filaria found. It was with considerable satisfaction therefore that the following case was noted, supplying as we may reasonably presume from the completeness of detail, convincing proof of the intimate relationship between m.f. diurna and f. loa.

The case was a Sierra Leone woman, aged 35 years, who had been to Old Calabar about four years ago. She attended as an out-patient at the Colonial Hospital, Sierra Leone, for the relief of an unpleasant “irritation” in the right upper eyelid. This “irritation” proved to be an active worm under the skin. The entire lid was gripped in an entropion forceps and an incision made, but just as quickly, even in that limited space, the worm succeeded in hiding itself. The following morning it was again in evidence, but disappeared as soon as the woman lay down for its removal. Hot moist pads were applied for an hour and a half to coax it to the surface, but the worm was not to be tempted. The third morning it was observed in its full length in the subcutaneous tissues of the opposite, the left, eyelid, having migrated as I imagined to this region. It was gripped through the skin with pressure forceps, unfortunately with greater force than discretion, and a slight incision caused it to extrude itself. The head end was stripped of its chitinous covering, but the posterior portion disclosed its identity as a mature male *Filaria loa*. The blood was next examined and was found to contain numerous m.f. diurna. One film which was fixed and stained, though just about the size of a sixpence, contained 112 larvæ, i.e., m.f. diurna. The patient’s satisfaction was short lived, however, as she reappeared two days afterwards, saying that the worm had returned. In the original eyelid examined (the right) there was now an active worm coiled up, and on being secured through the skin was extracted with some difficulty, breaking into three pieces, the tail end being lost in the tissues. This worm proved to be the female, and was considerably thicker and presumably much longer than the male. The central piece had some long delicate filaments attached to it, and these proved to be the ovary and oviducts. The oviducts were wide and sacculated at the attachment to the ovary, a provision no doubt to retard the progress of the ova, but they narrowed towards the end, and the ova there contained were more advanced in development. Towards the entrance end ova were almost absent, but the tubes were packed with myriads of actively-motile larvæ, which shot into the saline solution of the slide, and which, after a few wriggles, died. A slide was prepared and stained of these newly born, or rather aborted, larvæ.

The ova was composed of a finely granular material in a delicate capsulo, but lower down in the duct presented appearances of irregular segmentation, each segment containing a refractile nucleus.

The night blood was examined and contained no m. filaria. The urine was normal: it was centrifugalised but yielded no larvæ. As an experimental measure I examined the blood of the daughter of the patient, who had not been to Calabar, but who had lived in the same house with the mother since her return, but no m. filaria were found. There was no history of Calabar swellings.

Here, then, we have a family group which answers all the requirements of successful propagation. The parent worms, male and female, were seen and extracted from the orbital



tissues, true enough in opposite eyes, but when one considers the rapid movements and migratory habits of the species, this offers no obstacle to successful breeding. This was more than demonstrated in the well-filled ovary and oviducts, and we may safely assume that the female gave birth continuously to countless larval forms. What, then, became of these? They were not present in the night blood. The day blood, on the other hand, contained numerous *m. filaria*. Would it, then, be stretching one's imagination too far to believe that the *m.f. diurna* were the offspring of the co-existing male and female *f. loa*? How the larvæ enter the blood stream we cannot assert, but when one considers their intuitive predilection for the peripheral circulation by day, their method of entry into the blood stream does not present an undue difficulty.

All the material, specimens and slides have been presented to the Museum of the London School of Tropical Medicine.

D. BURROWS,

*Medical Officer,*

W.A.M.S.

### ACUTE "CRAW-CRAW."

*Note by* Dr. R. H. KENNAN, S.M.O., W.A.M.S.

While I am fully conscious of the indefiniteness of the term "Craw-Craw" as descriptive of a skin eruption in West Africa, and that many different conditions are commonly included under it, I am not at present prepared to suggest a more suitable name for the disease I am about to describe.

I have seen the disease, and watched its course through its various stages in at least a dozen typical cases, some in this Colony and others in the Gold Coast Colony. Most of the cases have been young adult men. The onset simulates that of an acute exanthem. The temperature rises at the earliest stage to 101° Fahrenheit, or 102° Fahrenheit associated with definite constitutional symptoms—vertigo, headache, malaise, &c. The elevation of temperature usually subsides in from a few days to a week. But the most characteristic feature is the rash, which may be practically universal, and is *vesiculo papular* in the very earliest stage. The vesicles have very little papular foundation, and always lack the well-defined base of a typical early variolar spot. The thin-walled vesicle when pricked exudes a sticky, gummy, pellucid fluid, which does not run freely. The vesicle can however be easily emptied entirely by slight pressure, its wall collapsing. In the first day or so of the case the great majority of the spots show an almost equal degree of development, but on looking carefully some withered, dried-up, or scaly spots can usually be found, the centre of each of these spots, being of a lighter colour than that of the surrounding skin, and round this centre is an iris-like ring of epidemic scales attached by its outer border. These represent a late stage of the vesicular condition, and may, I think, be the sources from which auto-infection has arisen, and the rash becomes acute and general. In a day or two fresh vesicles are found between the older ones, and fresh crops continue to appear for a week or more. A few of the spots suppurate slightly, but definite adherent scabs are rare.

There is no secondary fever. A vesicle may show umbilication when a fine hair emerges through its centre.

Itching is not a prominent symptom, and is commonly absent, especially in the earlier stages; when present later, it usually disappears before the rash has gone. The palms of the hands and soles of the feet escape as a rule, while the fingers show few, if any, spots. The hairy scalp does not always escape, but the spots are few in this region.

The exterior aspects of the arms and legs and the buttocks are perhaps usually most affected. Disappearance of the rash with desquamation of the surface layers of the epidermis of the affected parts is slow and protracted, and even with frequent bathing and friction with antiseptic applications the skin may still show evidence of the rash after a month, or six weeks, or even longer. The sites of some of the spots may remain more darkly pigmented than the general skin, with smooth, hairless surface. There is no true "pitting" left as in cases of severe Small-pox. Spots commonly appear on the prepuce and *glans penis*, but I have not

seen them on the tongue, faucial or buccal mucous membranes, nor have I seen the conjunctivæ affected. The lymphatic glands are sometimes markedly enlarged, soft, and practically painless, and this is generally best marked in the femoral chains. Such enlarged glands are exceedingly common amongst natives, and I am inclined to think that in very many cases the cause of their enlargement may be due to existent or old spots of *craw-craw*.

All the cases I have seen have been amongst natives, and they have not always been of the poorest, or dirtiest (*i.e.*, labouring) class. I believe the disease is contagious, and that many minor cases are overlooked, or diagnosed as "*Scabies*," &c., and that those cases in which the rash is limited to comparatively few spots (usually on the thighs) may from some cause suddenly become acute and the rash general.

I have seen the disease confounded with scabies, chicken-pox, and small-pox. The differential diagnosis from scabies should not be difficult; in acute "*craw-craw*" there is never the intense itching usually found in cases of scabies, though I admit that the degree to which it may be present in scabies cases varies widely. The rapid general development and early constitutional symptoms will further assist in excluding scabies, as well as the failure to find the "*mite*." The vesicles have never the excessively thin wall of the chicken-pox vesicle, and they persist much longer than these latter usually do, while the contents are not clear or watery even in the earliest stage. The very early vesicular development, the absence of a preliminary "*shotty*" stage, and of a hard base beneath the vesicles, and the appearance of the spots in successions of "*crops*," so that one can almost always see spots in unequal development neighbouring one another, should suffice to exclude small-pox. Vaccination in any stage of acute "*craw-craw*" runs an unmodified course in patients previously unvaccinated.

I have not observed any hæmorrhagic tendency in the spots in acute "*craw-craw*," nor any abnormality in the urine, nor have I been able to find what I could even surmise might be an etiological factor in the blood, or in the contents of the vesicles.

I have no reason to suppose that the disease ever leads to a fatal termination, or that it is a syphilitic manifestation. Owing to the persistent way in which one of the civil police who had the eruption of acute "*craw-craw*" very marked on his face was hailed before me in Freetown by the Sanitary Police as a case of Small-pox and unfit to be at large, I was obliged to give him a note: "*Constable (X) is not suffering from Small-pox; leave him alone.*"

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## THE SPREAD OF CANCER AMONG THE DESCENDANTS OF THE LIBERATED AFRICANS OR CREOLES.

(*By* W. RENNER, M.D.)

I have been rather struck within recent years with the increasing number of cases of Cancer of various organs, especially of the breast, that have, in the course of my practice, come under my observation, and this, particularly so, among the descendants of the liberated Africans commonly called Creoles, who form the bulk and principal portion of the population of the Colony proper.

2. In consequence of this, I have been induced to again look into the returns of cases admitted into the Colonial Hospital, as well as into my private case book, to see how far I would be justified in speaking of an increase of this disease among the Creoles, its apparent rarity among the resident aborigines in the Colony and in the Hinterland of Sierra Leone, and how far this apparent increase is due to causes which may be traced to the influences of European civilization and the adoption of the European mode of living.

3. In pursuing the investigation of this subject, I would first consider the case of the resident aborigines in the Colony and in the hinterland. From the fact that this disease is rarely seen or met with among the hundreds of female aborigines who are treated regularly every year in the Colonial Hospital, and that the medical officers of the Protectorate districts, especially those who are stationed in large towns where there are established dispensaries, at which the natives have been encouraged to attend for treatment, have in their official returns not shown the presence of new growths among their patients, we can safely assume that Cancer



as a disease is very rare among the aborigines. This is, however, only fairly but not altogether satisfactory, as there may be cases which are kept in the background by the people, and which even when on his patrols in the district, the medical officer cannot get hold of. Therefore, in spite of the non-entry of cases of Cancer in the official returns, I would rather not say that the aborigines are immune from the disease, but that the disease is rare among them.

4. With reference to the Creoles in the Colony proper, an examination of the records of Hospital cases and those of Medical Practitioners would show that within the last forty years Cancer, as a disease, has been spreading among them.

5. In 1900, I endeavoured in a paper entitled "Prevalence of malignant disease among the Natives," which formed the Appendix to the Colonial Hospital Medical Report, to tabulate cases of malignant new growths that were admitted into the Hospital within the years 1870-1900, a period of 30 years. Out of 22,453 cases of all kinds treated in the Hospital, only twenty cases of malignant disease were recorded. These cases were simply described as "Malignant Tumour," "Carcinoma," "Sarcoma," "Malignant Growth," but without any details being given as to the particular nature of the disease or of the organ or tissue invaded.

6. To fully illustrate my meaning I append an extract from the Paper, showing in decades the number of cases treated and the number of malignant growths noticed at each period.

Period.	Total number of cases treated.	Nature and number Malignant growths noticed and treated.				
1870-1879	6,509	Cancer of the Breast	...	...	2	
		Sarcoma	...	...	1	
		Malignant disease of Jaws	...	...	1	
						4
1880-1889	5,334	Cancer of the Breast	...	...	2	
		Cancer of the Liver	...	...	2	
		Carcinoma	...	...	1	
		Malignant Disease	...	...	1	
						6
1890-1899	9,392	Malignant Growths	...	...	2	
		Malignant Tumour	...	...	1	
		Cancer of the Liver	...	...	1	
		Epithelioma	...	...	1	
Grand Total		...	...	...	...	15

7. If to this third period (1890-1899) be added the 1,218 cases treated in 1900, and among which were :—

Epithelioma of the Lower Lip...	...	...	...	...	1
Scirrhus of the Breast	...	...	...	...	2
Cancer of the Pancreas	...	...	...	...	1

there would be for the period 1890-1900, 10,610 cases treated, including :—

Epithelioma of the Lower Lip	...	...	...	...	1
Malignant Growths	...	...	...	...	2
"    Tumour	...	...	...	...	2
Epithelioma	...	...	...	...	1
Cancer of the Liver	...	...	...	...	1
Scirrhus of the Breast	...	...	...	...	2
Cancer of the Pancreas	...	...	...	...	1

8. Tabulating the period under review, the proportion of disease of malignant nature to all the other diseases treated shows clearly as follows :—

Year.			Total Patients treated.	Diseases, Malignant.
1870—1879	...	...	6,509	4
1880—1889	...	...	5,334	6
1890—1900	...	...	10,610	10
			22,453	20

9. Between the dates 1900—1909, there were 10,163 cases admitted into Hospital. Of these there were :—

Carcinoma of the Breast	...	...	...	...	...	10
Adeno Sarcoma of the Groin (Recurrent)	...	...	...	...	...	1
” ” ” Breast ”	...	...	...	...	...	1
Carcinoma of the Uterus	...	...	...	...	...	3
Papilloma of the Bladder	...	...	...	...	...	1
Carcinoma of the Rectum	...	...	...	...	...	3
Sarcoma of the Shoulder joint	...	...	...	...	...	1
Chondrosarcoma of the Upper Jaw	...	...	...	...	...	1
Carcinoma of the Œsophagus	...	...	...	...	...	1
Mellanotic Sarcoma of the Foot (Recurrent)	...	...	...	...	...	1
Epthelioma of the Tongue	...	...	...	...	...	1
Sarcoma of the Arm	...	...	...	...	...	1
” ” Eye	...	...	...	...	...	1
						26

These growths, that is those collected between 1900 and 1909, have been verified by microscopic examination at the Cancer Research Institute of the University of Liverpool.

10. I have in compiling this return not taken in any figures from the Princess Christian Mission Hospital, of which I am one of the Consulting Surgeons, as these records are not available, having been destroyed last year (1909) by a destructive fire which consumed the entire building. But I am in a position to say that a large number of cases was subjected to operation by me and the other Surgeons of that Institution.

11. The above figures are interesting as indicating the presence of cancerous and other malignant growths in the descendants of the Liberated Africans or Creoles in this Colony. I admit that it is not safe to base definite conclusions as to the extent of the increase or spread of this disease upon statistics alone, and, therefore, I do not consider the figures in the last preceding table as accurately representing the extent of the increase or spread of the disease. For a number of cases must exist which, unfortunately, the general Practitioners do not come across, and there must be many sufferers who do not seek the aid of the Hospitals. These latter are more or less in the hands of the native fetish doctors who lull them with the false hope of cure, by stating that their disease is a result of witchcraft, and that they (the fetish doctors) are the only persons capable of treating their disease and giving them the desired relief. Some of these patients have remained in their hands trusting still in their occult powers until either becoming hopelessly incurable, the fact at last dawns in their minds that they might seek other aid, or they arrive at the stage where nothing remains for them but to long for that relief from their terrible sufferings which death alone can give.

12. The existence of Cancer and other malignant growths among the Creoles, and its absence or rarity among the aborigines are due in my opinion to the civilised habits of, and the civilising influences operating upon the former, and to the primitive mode of living of the latter. The Creoles have adopted the mode of living, the food and dress of the European, have to a great extent discarded the simple food of their forefathers, have been craving for and indulging in preserved and imported foreign food, have substituted the European for the natural African environment, and entailed on themselves in their eager pursuit for wealth and luxury the anxieties and worries incidental to civilization and consequent liability to premature decline.



13. Reverting to the question of food, while the Creoles in a tropical country like Sierra Leone consume a large quantity of meat which is absolutely unnecessary, the aborigines—the Temnes, the Mendis, Kurankos, and others, confine themselves mostly to grain and vegetables, which really should form the bulk of the dietary of the native in the Tropics, and eat very little of flesh or meat, with the result that the latter are on the whole healthier, and are free from the tendency to engender and propagate foreign diseases.

14. On the question of the relation of Diet to Disease, some medical authorities have asserted that butcher's meat is undoubtedly one of the means by which Cancer is propagated. Although I cannot yet for want of sufficient data absolutely accept this theory, yet the fact that cancerous growths are common among the well-to-do Creoles who can with ease afford meat and other articles of European diet as portion of their daily dietary, strongly appeals to me as lending a support to that theory.

15. Epitheliomatous growths are very rare among both Creoles and Aborigines. By this I mean, Epithelioma of the lip, tongue, cheek, &c., such as have been met with among the negroes of the West Indian Islands, the Southern States of North America and in India, and are considered to be the result of local irritation. This rarity is possibly due to the fact that the Creoles are not great smokers of clay pipes, and are to a large extent the possessors of good teeth. I have, however, noticed a marked tendency to degeneration of the teeth among all classes from children upwards, a condition which was certainly absent twenty-five years ago, and which I put down to the use of European articles of diet as saccharine foods, preserves and sweets. If this tendency is not checked I would not be surprised if in another fifty years Epithelioma of the tongue should become as common a disease as Cancer of the Breast in this Colony.

16. But in the aborigines also there is a marked absence of these Epitheliomatous growths, and yet both men and women and even children are great clay pipe smokers. Their teeth are, however, kept beautifully and pearly white, and that tendency to decay which has been noticed in the Creoles is altogether absent in them.

17. The presence of Cancer of the Breast among the Creoles of this Colony nullifies, in my opinion, the theory advanced by Dr. Hersey, Principal Medical Officer of British Central Africa, in his paper on "The rarity of Cancer among the Aborigines of British Central Africa," published in the British Medical Journal of December 1, 1906, in which he states:—

"Of the various theories advanced to explain the origin of Cancer the theory that it is purely local in origin appears to have obtained the widest acceptance. Permissing that Cancer of the Breast is local in its origin, that for physiological reasons the breast is subject to great and sudden alterations in its functional activity both at puberty and during pregnancy and lactation, it appears to me that any disturbance of the physiological functions of the breast during lactation would act as an exciting causation agent of no small value in the production of Cancer. All native children have of necessity to be brought up on the breast. In civilized communities even among the poor, there is a marked and growing tendency to wean infants at the outset. In consequence of the physiological increase of supply of blood to the breast during lactation the artificial suppression of the latter may act as a powerful exciting cause in the production of Cancer. If this is not so, how is it to be explained that aboriginal women, who are always compelled to suckle their young, are so immune from Cancer of this organ that it is practically unknown amongst them?"

18. To this I have to observe that the cases of Cancer of the Breast which I have enumerated above as occurring between the years 1900—1909, have all come within my personal observation and knowledge. They were all multiparous women who had nursed their infants from twelve to eighteen months each time before weaning, and they had become again pregnant after an interval of from three to twelve months; so that the mammary glands in them were in a state of constant excitement and activity. The physiological activity of the mammary glands is not in my opinion a reasonable theory to account for the apparent immunity or rarity of Cancer of the Breast amongst the native women of British Central Africa. The presence and apparent increasing number of this disease amongst the civilized native women, descendants of the Liberated Africans in Sierra Leone, must point out that we must look for some other means brought about by their contact with and embracing of civilization.

19. The important fact of hereditary predisposition has not been lost sight of, but so far I have been unable to trace the existence of any growth whatever in their family history of the majority of the cases examined. In one case, however, there was distinct hereditary



origin for which I can vouch, as I treated the grandmother for Cystic Adeno Sarcoma of the right breast, the grand-daughter for Carcinoma of the Uterus and the great-grand-daughter for Recurrent Adeno-Sarcoma of the Groin.

20. It may be interesting, as bearing upon the question of civilization as a contributory cause to the origin and spread of cancer and other diseases among aboriginal population, to compare the history of two African peoples on the West Coast of Africa—the Sierra Leone Creoles and the Fantis or natives of the Gold Coast.

21. In the case of the Sierra Leone Creole, his ancestors of various tribes and languages different habits and social customs and of various temperaments, dispositions and idiosyncrasies had, as an outcome of the suppression of the Slave Trade and Slavery been brought and located in Sierra Leone. Possessing nothing of the elements of a nation in common, they could not combine and unite and so become a distinct entity, and evolve if not a language a common social custom and mode of living best suited to their state and condition as Children of the Tropics. Their eagerness in their ignorance to forsake their own native social customs, and to embrace and adopt the language, dress, mode of living of their benefactors—an eagerness largely born of gratitude—was only paralleled by the earnest solicitude on the part of their benefactors to help them to throw off what was “native” and which was unwisely regarded by the latter as relics of barbarism and heathenism and assist them in the adoption of their language, customs and mode of living. As ignorance and tribal difference slowly gave way to education and intermarriages, the tendency not to assimilate what was best in their native brethren or to unite, but to imitate, adopt and practice what was foreign, grew and grew until by the process of evolution the Sierra Leonean has become more English than other people on the West Coast of Africa. The initial cause of this was the absence of a common nationality, tribal origin or clanship. For how different would the Creoles have been if their forefathers were all from the same country and of the same tribe. They would have preserved their language, traditions, customs and habits, and have been better able to resist, for a considerable period at least, the inroads of certain civilized habits and influences—the adoption of which has proved detrimental to their very existence.

22. Now let me take the case of the Gold Coast and see how far European civilization has affected a large majority of the people there who are one in language, habits and customs. These people have been in contact with European nations for five centuries. Their country was visited by the Phoenicians; they have had at various periods and for more or less long duration constant intercourse with the Danes, Dutch, Portuguese, Germans and English who have at intervals and in succession held and fortified their coast towns. Yet after so many centuries of close contact with Europeans they have, by virtue of their race instinct and race unity, resisted as one people the inroads of European civilization into their social life; as a result, we find the absence or rather rarity of Cancer and other new growths amongst them. How long this condition will last remains to be seen. Native customs die hard, but with the establishment of permanent peace in their country, the opening of their country by Railways, the constant influx in increasing numbers of Europeans exploiting the country and working the Mines, the equally rapid increasing number of the offspring of such Europeans as a result of intercourse with the native coloured women, descendants of older decades from Danish, Dutch, German and English forefathers, and with the other non-hybrid native women, the liberal and progressive system of education now being established all over the country, I am very much afraid that social habits and native customs of the Gold Coast people will before long disappear before the mighty onslaughts of European civilization, and with such disappearance arise those conditions which I believe, as the outcome of this civilization, are the origin of Cancer. I entertain this apprehension also in regard to the Nigerias and other native Territories which are being exploited by or made as a home for the white man.

23. I have in the above sketch attempted simply to give facts and state my impressions based on those facts. I have refrained from making definite conclusions or positive statements and necessarily so, where the field of investigation is so wide and my opportunities for making researches are so limited. If, however, this sketch should serve to induce others to collect data and prosecute researches as opportunities offer so that definite conclusions may be arrived at, and should lead the Creoles to reflect and alter their present mode of living so as to avert becoming the victims of this dire disease which up to the present baffles medical science, I shall not have made the attempt in vain.

(Sd.) W. RENNER,

*Medical Officer.*



## APPENDIX B.

### HOSPITAL RETURNS, &c., 1909.

#### ANNUAL MEDICAL AND SURGICAL RETURNS, COLONIAL HOSPITAL, FREETOWN.

*Table No. 1.*

					Males.	Females.	Total.
Patients remaining in Hospital, 31-12-08	...	...			25	18	43
„ admitted during the year 1909	...	...			845	369	1,214
Total number treated	...	...	...	...	870	387	1,257
Of these were—							
Cured	...	...	...	...	356	229	585
Relieved	...	...	...	...	360	78	438
Not relieved	...	...	...	...	49	25	74
Died	...	...	...	...	72	35	107
Remaining in Hospital 31-12-09	...	...	...	...	33	20	53
Total number treated	...	...	...	...	870	387	1,257

*Table No. 2.*

						Males.	Females.
Average stay, in days, of Patients discharged	...	...	...	...		15·46	18·92
„ „ „ „ „ died	...	...	...	...		11·41	9·91
„ „ „ „ „ remaining	...	...	...	...		24·15	28·35
Daily average in Hospital	...	...	...	...		34·85	20·04

*Table No. 3.*

1.—Rate per cent. of Patients (107) died of total number (1,257) treated, 8·51.

					12 hours.	24 hours.	48 hours.	72 hours.	Total.
2.—Patients who died within the following hours after admission :—									
Males	...	...	...	...	10	7	4	7	28
Females	...	...	...	...	9	5	3	3	20
Total	...	...	...	...	19	12	7	10	48

Table No. 4.

NUMBER OF DESTITUTE PERSONS SENT FOR ADMISSION BY THE POLICE AND SANITARY AUTHORITIES  
AND TRANSFERRED TO THE HOSPITALS AT KISSY.

Males	...	...	...	...	...	16
Females	...	...	...	...	...	8
Total...						<u>24</u>

Table No. 5.

## IN PATIENTS.

RETURN OF DISEASES TREATED, AND DEATHS AT THE COLONIAL HOSPITAL,  
1909.

Diseases.				Remaining in Hospital at end of 1908.	Year's Total.		Total Cases Treated.	Remaining in Hospital at end of 1909.	
					Admissions.	Deaths.			
GENERAL DISEASES—									
Malarial Fever.	{	Inter- mittent Fever.	{ Sub-Tertian ...	...	—	9	—	9	—
			{ Benign ...	...	—	2	—	2	—
			{ Irregular ...	...	1	65	2	66	2
			{ Remittent ...	..	1	35	—	36	—
Blackwater Fever ...				...	—	1	1	1	—
Febricula ...				...	—	12	—	12	—
Measles ...				...	—	1	—	1	—
Influenza ...				...	—	2	—	2	—
Dysentery ...				...	—	22	7	22	1
Beri Beri ...				...	—	1	—	1	—
Syph lis—Primary ...				...	—	5	—	5	—
Syphilis—Secondary ...				...	—	1	—	1	—
Syphilis—Tertiary ...				...	3	13	1	16	3
Gonorrhœa ...				...	—	5	—	5	2
Alcoholism ...				...	—	4	1	4	—
Debility ...				...	1	36	—	37	1
Senile Decay ...				...	—	5	3	5	—
Rheumatism ...				...	1	72	1	73	2
Rheumatic Arthritis ...				...	1	4	—	5	1
Lumbago ...				...	—	2	—	2	—
Pleurodynia ...				...	—	1	—	1	—
Tubercle ...				...	2	22	4	24	—
Yaws ...				...	—	1	—	1	—
Trypanosomiasis ...				...	—	3	1	3	—
Filariasis ...				...	—	1	—	1	1
Bilharziasis ...				...	—	1	—	1	—
Pyorrhœa ...				...	—	2	1	2	—
Septicœmia ...				...	—	3	2	3	—
Goitre ...				...	—	1	—	1	—
Exhaustion ...				...	—	1	1	1	—
Frost Bite ...				...	—	1	—	1	—
Destitution ...				...	—	2	—	2	—
Lipoma ...				...	1	3	—	4	—
Fibroid Tumour ...				...	—	10	—	10	1
Sarcoma ...				...	—	1	—	1	1
Carried forward ...				...	11	350	25	361	15



RETURN OF DISEASES AND DEATHS IN 1909 AT THE COLONIAL HOSPITAL—*contd.*

Diseases.	Remaining in Hospital at end of 1908.	Year's Total.		Total Cases Treated.	Remaining in Hospital at end of 1909.
		Admissions.	Deaths.		
Brought forward ...	11	350	25	361	15
LOCAL DISEASES.					
DISEASES OF THE NERVOUS SYSTEM—					
Neuritis ... ..	1	—	—	1	—
Poly Neuritis ... ..	—	1	—	1	—
Neurasthenia ... ..	—	3	—	3	—
FUNCTIONAL NERVOUS DISEASES—					
Epilepsy ... ..	—	2	—	2	—
Post Epileptic Coma ... ..	—	2	—	2	—
Apoplexy ... ..	—	1	—	1	—
Paraplegia ... ..	—	2	1	2	—
Paralysis ... ..	—	5	—	5	—
Facial Paralysis ... ..	1	—	—	1	—
Hemiplegia ... ..	—	10	—	10	1
Locomotor Ataxy ... ..	—	1	—	1	—
Cerebral Hæmorrhage ... ..	—	1	1	1	—
Cerebral Tumours ... ..	—	1	1	1	—
Abscess of Brain ... ..	—	1	1	1	—
Meningitis ... ..	—	1	—	1	—
Convulsions ... ..	—	2	1	2	—
Neuralgia ... ..	—	2	—	2	—
Vertigo ... ..	—	1	—	1	—
Tetanus ... ..	—	15	9	15	—
MENTAL DISORDERS—					
Mental Aberration ... ..	—	3	1	3	—
General Paralysis of the Insane ... ..	—	1	1	1	—
DISEASES OF THE EYE—					
Conjunctivitis ... ..	—	8	—	8	—
Ophthalmia ... ..	—	3	—	3	—
Ulcer of Cornea ... ..	—	1	—	1	—
Suppuration of Cornea ... ..	—	1	—	1	—
Perforating Wound of Cornea ... ..	—	2	—	2	—
Cataract ... ..	—	3	—	3	—
Iritis ... ..	—	1	—	1	—
Keratitis ... ..	—	1	—	1	—
Pterygium ... ..	—	1	—	1	—
DISEASES OF THE EAR—					
Inflammation, External Meatus ... ..	—	1	—	1	—
Deafness ... ..	—	1	—	1	—
DISEASES OF THE NOSE—					
Coryza ... ..	—	1	—	1	—
Cyst, Nasal Septum... ..	—	1	—	1	—
Carried forward ...	13	450	41	463	16

RETURN OF DISEASES AND DEATHS IN 1909 AT THE COLONIAL HOSPITAL—*contd.*

Diseases.					Remaining in Hospital at end of 1908.	Year's Total.		Total Cases Treated.	Remaining in Hospital at end of 1909.
						Admissions.	Deaths.		
Brought forward ...					13	450	41	463	16
CIRCULATORY SYSTEM—									
Mitral Incompetence ... ..					—	1	—	1	—
Mitral Regurgitation ... ..					1	15	6	16	—
Aortic Regurgitation ... ..					—	3	1	3	—
Cardiac Debility ... ..					—	2	—	2	—
RESPIRATORY SYSTEM—									
Pleurisy ... ..					1	4	—	5	—
Pneumonia ... ..					1	19	6	20	—
Broncho-Pneumonia ... ..					—	7	1	7	—
Pleuro-Pneumonia ... ..					3	2	1	5	—
Empyema ... ..					—	1	1	1	—
Congestion and Lung ... ..					—	1	1	1	—
Bronchitis ... ..					1	38	5	39	1
DIGESTIVE SYSTEM—									
Diarrhoea .. ...					—	35	5	35	—
Reducible Hernia ... ..					1	23	—	24	—
Femoral Hernia ... ..					—	1	—	1	—
Strangulated Hernia ... ..					—	8	2	8	—
Round Worms ... ..					—	2	—	2	1
Tape Worms... ..					1	1	—	2	—
Ankylostomiasis ... ..					—	3	—	3	—
Constipation ... ..					—	6	—	6	—
Proctitis ... ..					—	1	—	1	—
Stricture of Rectum ... ..					1	3	—	4	1
Cancer of Rectum ... ..					—	1	—	1	—
Cirrhosis of Liver .. ..					—	2	1	2	—
Congestion ... ..					—	2	—	2	—
Hepatitis ... ..					1	7	—	8	2
Hepatic Abscess ... ..					—	1	—	1	—
Gastric Ulcer ... ..					—	4	—	4	—
Fistula in Ano ... ..					—	2	1	2	—
Hæmorrhoids ... ..					—	2	—	2	—
Pharyngitis ... ..					—	2	—	2	—
Tonsillitis ... ..					—	2	—	2	—
Dyspepsia ... ..					—	4	—	4	—
Caries of Tooth ... ..					—	1	—	1	—
Appendicitis... ..					—	1	—	1	—
Intestinal Obstruction ... ..					—	1	1	1	—
Peritonitis ... ..					—	5	3	5	1
Colic ... ..					—	3	—	3	—
LYMPHATIC SYSTEM—									
Adenitis ... ..					—	13	—	13	—
URINARY SYSTEM—									
Bright's Disease ... ..					4	11	6	15	1
Uræmia ... ..					—	5	5	5	—
Congestion of Kidney ... ..					—	2	—	2	—
Vesical Hæmorrhage .. ..					—	1	—	1	1
Malignant Disease of Bladder ... ..					—	1	1	1	—
Extravasation of Urine ... ..					—	3	1	3	—
Cystitis ... ..					—	1	—	1	—
Carried forward ...					28	703	89	731	24



RETURN OF DISEASES AND DEATHS IN 1909 AT THE COLONIAL HOSPITAL—*contd.*

Diseases.	Remaining in Hospital at end of 1908.	Year's Total.		Total Cases Treated.	Remaining in Hospital at end of 1909.
		Admissions.	Deaths.		
Brought forward ...	28	703	89	731	24
MALE ORGANS OF GENERATION—					
Urethral Hæmorrhage ...	—	1	—	1	—
Phymosis ...	1	34	—	35	4
Paraphymosis ...	—	2	—	2	—
Orchitis Non-Gonorrhœal ...	—	4	—	4	—
Elephantiasis of Scrotum ...	1	10	1	11	—
Abscess of Scrotum ...	—	5	1	5	—
Hydrocele ...	—	14	—	14	—
Urethral Fistula ...	—	6	—	6	—
Stricture ...	2	16	2	18	—
Enlarged Prostate ...	—	1	—	1	—
Phagedæna of Penis ...	—	1	—	1	—
Ulcer of Penis ...	1	5	—	6	—
FEMALE ORGANS OF GENERATION—					
Fibroid of Uterus ...	—	1	—	1	1
Retroflexion of Uterus ...	—	1	—	1	—
Prolapse of Uterus ...	—	1	—	1	—
Procidentia ...	—	1	—	1	—
Dysmenorrhœa ...	—	1	—	1	—
Menorrhagia ...	—	1	—	1	—
Metrorrhagia ...	—	1	—	1	—
Endometritis ...	—	7	—	7	1
Ovaritis ...	—	2	—	2	—
Tumour of Vagina ...	—	1	—	1	—
Ulceration of Vagina ...	—	1	—	1	—
Wound of Clitoris ...	—	1	—	1	—
Salpingitis ...	—	1	—	1	—
Cervico-Vaginal Ulcer ...	—	2	—	2	—
Vesico-Vaginal Fistula ...	—	1	—	1	1
AFFECTIONS CONNECTED WITH PARTURITION—					
Parturition ...	—	67	1	67	—
Puerperal Eclampsia ...	—	2	1	2	—
Placenta Prævia ...	—	2	1	2	—
Retained Placenta ...	—	4	—	4	—
Puerperal Fever ...	—	1	—	1	—
AFFECTIONS CONNECTED WITH PREGNANCY—					
Abortion ...	—	11	—	11	—
Threatened Abortion ...	—	2	—	2	—
False Pains ...	—	3	—	3	—
Miscarriage ...	—	1	—	1	—
Vomiting of Pregnancy ...	1	1	—	2	—
FEMALE BREAST—					
Abscess of Breast ...	—	3	—	3	—
Carcinoma of Breast ..	—	2	1	2	1
Elephantiasis of Breast ...	—	1	—	1	—
Adeno-Sarcoma of Breast ...	—	1	—	1	—
Inflammation of Breast ...	—	1	—	1	—
Galactorrhœa ...	—	1	—	1	—
Carried forward ...	34	928	97	962	32

RETURN OF DISEASES AND DEATHS IN 1909 AT THE COLONIAL HOSPITAL—*contd.*

Diseases.	Remaining in Hospital at end of 1908.	Year's Total.		Total Cases Treated.	Remaining in Hospital at end of 1909.
		Admissions.	Deaths.		
Brought forward ...	34	928	97	962	32
ORGANS OF LOCOMOTION—					
Caries of Tibia ... ..	—	1	—	1	—
Myositis Ossificans ... ..	—	1	—	1	1
Peri Ostitis ... ..	1	1	—	2	—
Synovitis ... ..	—	2	—	2	—
Necrosis ... ..	1	—	—	1	—
Ganglion ... ..	—	1	—	1	—
CONNECTIVE TISSUE--					
Abscess ... ..	—	37	2	37	1
Cellulitis ... ..	—	5	—	5	—
Carbuncle ... ..	—	7	—	7	—
DISEASES OF THE SKIN—					
Boils ... ..	—	1	—	1	—
Craw Craw ... ..	—	1	—	1	—
Eczema ... ..	—	2	—	2	—
Erysipelas ... ..	—	3	1	3	—
Psoriasis ... ..	—	1	—	1	—
Ulcer ... ..	5	106	—	111	8
Whitlow ... ..	—	2	—	2	—
INJURIES, GENERAL—					
Scald ... ..	—	4	—	4	—
Burn ... ..	—	2	2	2	—
„ by lightning ... ..	—	1	1	1	—
INJURIES, LOCAL—					
Laceration of Labia ... ..	—	1	—	1	—
Hæmorrhage from Rape ... ..	—	3	—	3	—
Contusions ... ..	—	33	—	33	4
Sprain ... ..	1	6	—	7	—
Cut Throat ... ..	—	1	—	1	—
Incised Wounds ... ..	—	22	1	22	5
Contused „ ... ..	—	11	—	11	1
Lacerated „ ... ..	—	19	—	19	—
Punctured „ ... ..	—	2	—	2	—
Crushed Fingers ... ..	—	3	—	3	—
Simple Fracture of Clavicle... ..	—	1	—	1	—
„ „ „ Humerus ... ..	—	3	—	3	—
„ „ „ Radius ... ..	—	1	—	1	—
„ „ „ Femur ... ..	—	2	—	2	—
„ „ „ Tibia ... ..	—	1	—	1	—
Compound Fracture of Foot ... ..	—	1	—	1	—
„ „ „ Leg... ..	—	1	—	1	—
POISONING ... ..	—	2	—	2	—
UNCLASSIFIED ... ..	1	16	3	17	1
Grand Total ...	43	1,214	107	1,257	53



Table No. 6.

SURGICAL OPERATIONS.—(Under Chloroform and other Anæsthetics).  
COLONIAL HOSPITAL, 1909.

	Remain- ing in Hospital, 31-12-08.	Number Admitted.	Total.	Successful.	Not Re- lieved.	Died.	Remain- ing in Hospital, 31-12-09.
Abscess, Opening of ... ..	—	21	21	21	—	—	—
Amputations ... ..	1	10	11	11	—	—	—
Buboes, Incisions for ... ..	—	1	1	1	—	—	—
Carbuncles, Incisions for ... ..	—	4	4	4	—	—	—
Castration ... ..	—	1	1	1	—	—	—
Cataract, Removal of ... ..	—	1	1	1	—	—	—
Cellulitis, Incisions for ... ..	—	2	2	2	—	—	—
Chalazion ... ..	—	1	1	1	—	—	—
Circumcisions ... ..	—	27	27	23	—	—	4
Colostomy ... ..	—	1	1	0	1	—	—
Curetting ... ..	—	5	5	5	—	—	—
Cut Throat, Suturing ... ..	—	1	1	1	—	—	—
Dilatation, Stricture of Rectum ... ..	1	1	2	1	—	—	1
Dilatation, Stricture of Urethra ... ..	1	12	13	13	—	—	—
Discolation, Reduction of ... ..	—	2	2	2	—	—	—
Elephantiasis Breast, Removal of ... ..	—	1	1	1	—	—	—
Elephantiasis Scroti, Removal of ... ..	—	9	9	8	—	1	—
Empyema, Relief of ... ..	—	1	1	—	—	1	—
Enucleation of Eyeball ... ..	—	1	1	1	—	—	—
Evisceration of Fœtus ... ..	—	1	1	1	—	—	—
Examinations ... ..	—	1	1	1	—	—	—
Extravasation of Urine, Relief of ... ..	—	1	1	—	—	1	—
Fistula in Ano, Incision ... ..	—	1	1	1	—	—	—
Fistula, Urinary ... ..	—	1	1	1	—	—	—
Fistula, Vaginal ... ..	—	2	2	2	—	—	—
Foreign body, Removal ... ..	—	5	5	5	—	—	—
Fracture Compound, Setting of ... ..	—	2	2	2	—	—	—
Ganglion, Removal of ... ..	—	2	2	2	—	—	—
Hernia, Radical Cure ... ..	—	17	17	16	—	1	—
Hernia, Taxis ... ..	—	1	1	1	—	—	—
Herniotomy ... ..	1	4	5	5	—	—	—
Hordeolum, Removal of ... ..	—	1	1	1	—	—	—
Hydrocele, Radical Cure ... ..	—	10	10	10	—	—	—
Hydrocele, Tapping of ... ..	—	2	2	2	—	—	—
Ingrowing Toe-nail, Evulsion of ... ..	—	2	2	2	—	—	—
Instrumental Delivery ... ..	—	4	4	3	—	1	—
Ligaturing of Artery ... ..	—	1	1	1	—	—	—
Necrosis and Sequestrotomy ... ..	—	2	2	1	—	1	—
Paraphymosis ... ..	—	1	1	1	—	—	—
Perineal Rupture, Suturing ... ..	—	3	3	3	—	—	—
Perineal Section ... ..	—	1	1	1	—	—	—
Piles, Excision of ... ..	—	1	1	1	—	—	—
Plastic ... ..	1	2	3	3	—	—	—
Prolapsus Uteri, Replacing ... ..	—	1	1	1	—	—	—
Pterygium ... ..	—	1	1	1	—	—	—
Puncture of Bladder ... ..	—	1	1	1	—	—	—
Scraping of Ulcer ... ..	—	5	5	5	—	—	—
Scrotum, Osdema of ... ..	—	1	1	1	—	—	—
Stephen Smith's ... ..	—	2	2	2	—	—	—
Suppurating Arthritis ... ..	—	2	2	2	—	—	—
Tumours Cystic, Removal of ... ..	—	1	1	—	—	—	1
Tumours, Various, Removal of ... ..	—	17	17	14	—	1	2
Urethrotomy ... ..	—	3	3	3	—	—	—
Vaginismus, Dilatation ... ..	—	1	1	1	—	—	—
Warts, Removal of ... ..	—	1	1	1	—	—	—
Whitlow, Incisions for ... ..	—	2	2	2	—	—	—
Wounds, Suturing of ... ..	—	9	9	8	—	1	—
Total ... ..	5	217	222	205	1	8	8

Table No. 7.

STATUS OF IN- AND OUT-PATIENTS TREATED AT THE COLONIAL HOSPITAL  
DURING THE YEAR 1909.

	EUROPEANS.		NATIVES.								
	Officials.	Non-Officials.	Officials.		Frontier Police.	Civil Police.	Pay Patients.		Paupers.		Total.
			M.	F.			M.	F.	M.	F.	
In-Patients ...	—	38	118	19	1	91	24	31	598	337	1,257
Out-Patients ...	588	1	2,540	188	—	823	210	197	14,071	8,856	27,474
TOTAL ...	588	39	2,658	207	1	914	234	228	14,669	9,193	28,731

Table No. 8.

SUMMARY OF DISEASES AND DEATHS AT THE COLONIAL HOSPITAL IN 1909.  
(IN-PATIENTS.)

Diseases.	Year's Total.	
	Cases.	Deaths.
GENERAL DISEASES—		
Malarial Intermittent Fever ... ..	77	2
„ Remittent „ ... ..	36	—
Syphilis ... ..	22	1
Gonorrhœa... ..	5	—
Debility ... ..	37	—
Rheumatism ... ..	73	1
Tubercle ... ..	24	4
Other Diseases ... ..	87	17
LOCAL DISEASES—		
Diseases of Nervous System ... ..	57	16
„ Respiratory „ ... ..	78	15
„ Circulatory „ ... ..	22	7
„ Digestive „ ... ..	127	13
„ Lymphatic „ ... ..	13	—
„ Urinary „ ... ..	28	13
„ Male Organs of Generation ... ..	104	4
„ Female „ „ ... ..	22	—
„ the Organs of Locomotion ... ..	8	—
„ „ Connective Tissues ... ..	49	2
„ Skin ... ..	121	1
„ Eye ... ..	21	—
„ Ear ... ..	2	—
„ Nose ... ..	2	—
Affections connected with Pregnancy ... ..	19	—
„ „ Parturition ... ..	76	3
Female Breast ... ..	9	1
Poisons ... ..	2	—
Injuries ... ..	119	4
Unclassified ... ..	17	3
GRAND TOTAL ... ..	1,257	107



Table No. 9.

RETURN OF OBSTETRIC CASES TREATED IN THE COLONIAL HOSPITAL  
DURING THE YEAR 1909.

RANK.			DISEASES, &c., CONNECTED WITH PREGNANCY AND PARTURITION.			LABOUR.		DELIVERY.				
Prima Paræ.	Multi Paræ.	TOTAL.	Diseases, &c.	No.	TOTAL.	Presentation.	No.	Normal.	Forceps.	Eviscer- ation.	Podalic Version.	Perfor- ation.
47	50	97	Abortion ... ..	11		Vertex ... ..	66	59	6	—	—	1
			Threatened Abortion	2		Breech ... ..	5	5	—	—	—	—
			Miscarriage ... ..	1		Footling ... ..	5	5	—	—	—	—
			Eclampsia ... ..	1		Transverse ... ..	2	—	—	1	1	—
			Puerperal Fever ...	1		Face ... ..	1	1	—	—	—	—
			Vomiting of Pregnancy ... ..	2								
			TOTAL ... ..		18	TOTAL ... ..	79	70	6	1	1	1

Table No. 10.

## RETURN OF DISEASES. (Out-Patients.)

Colonial Hospital, Freetown.

	OFFICIALS.	C. POLICE.	F. POLICE.	PAUPERS.	
Total Number Treated	1,920	383	—	8,932	} = 27,474.
Subsequent Attendances ...	1,397	440	—	14,402	

## REGISTERED NUMBER OF NEW CASES.

## TOTALS.

		Officials.		C. Police.		F. Police.		Paupers.		Officials.		C. Police.		F. Police.		Paupers.	
		M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
GENERAL DISEASES										729	44	170	—	—	—	1274	989
Small Pox ...		—	—	—	—	—	—	—	—								
Cow Pox ...		—	—	—	—	—	—	—	—								
Chicken Pox ...		—	—	—	—	—	—	1	—								
Measles ...		1	—	—	—	—	—	2	1								
Influenza ...		20	1	4	—	—	—	16	7								
Whooping Cough...		—	—	—	—	—	—	5	10								
Mumps ...		—	—	—	—	—	—	5	2								
Dysentery...		16	—	—	—	—	—	27	16								
Erysipelas...		—	—	—	—	—	—	—	1								
Malarial Fever.	Quotidian ...	54	5	21	—	—	—	17	14								
	Tertian ...	35	2	19	—	—	—	29	14								
	Quartan ...	12	—	3	—	—	—	13	8								
	Irregular ...	74	4	5	—	—	—	70	54								
	Type not recognised	122	—	45	—	—	—	95	70								
	Remittent ...	40	2	10	—	—	—	58	49								
	Malarial Cachexia	—	—	—	—	—	—	—	—								
	Enteric Fever ...	—	1	—	—	—	—	—	—								
	Febricula ...	9	—	4	—	—	—	15	2								
	Beri-Beri ...	—	—	—	—	—	—	6	—								
	Syphilis, Tertiary...	—	—	—	—	—	—	19	20								
	(a) Primary	—	—	—	—	—	—	45	12								
	(b) Secondary	—	—	—	—	—	—	39	13								
Gonorrhœa ...		2	—	—	—	—	—	82	15								
Tape Worm ...		—	—	—	—	—	—	—	—								
Round Worm ...		—	—	—	—	—	—	—	—								
Trypanosomiasis ...		—	—	—	—	—	—	1	1								
Alcoholism ...		—	—	—	—	—	—	1	—								
Filariasis ...		—	—	—	—	—	—	—	2								
Debility ...		101	18	11	—	—	—	93	135								
Malformation ...		—	—	—	—	—	—	—	—								
Rheumatism ...		249	11	48	—	—	—	575	467								
Non-Malignant																	
New Growth ...		2	—	—	—	—	—	9	6								
Malignant New																	
Growth...		—	—	—	—	—	—	3	—								
Tubercle ...		—	—	—	—	—	—	15	7								
Cancer ...		—	—	—	—	—	—	1	—								
Yaws ...		—	—	—	—	—	—	4	2								
Anæmia ...		2	—	—	—	—	—	23	26								
Diabetes ...		—	—	—	—	—	—	4	4								
Rickets ...		—	—	—	—	—	—	—	1								
Total carried forward										729	44	170	—	—	—	1273	989



TOTALS.

	Officials.		C. Police.		F. Police.		Paupers.		Officials.		C. Police.		F. Police.		Paupers.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Total brought forward									729	44	170	—	—	—	1273	989
LOCAL DISEASES—																
NERVOUS SYSTEM—	—	—	—	—	—	—	—	—	64	2	7	—	—	—	129	104
Meningitis ...	—	—	—	—	—	—	—	—								
Concussion ...	—	—	—	—	—	—	—	1								
Paralysis ...	—	—	—	—	—	—	9	1								
Neuralgia ...	40	2	5	—	—	—	79	64								
Vertigo ...	6	—	—	—	—	—	3	8								
Epilepsy ...	—	—	—	—	—	—	1	1								
Tetanus ...	—	—	—	—	—	—	3	—								
Cephalagia ...	11	—	2	—	—	—	28	22								
Mania ...	—	—	—	—	—	—	—	4								
Mental Excitement	—	—	—	—	—	—	3	—								
Ataxia ...	—	—	—	—	—	—	—	1								
Neuritis ...	7	—	—	—	—	—	3	2								
EYE—	—	—	—	—	—	—	—	—	28	1	7	—	—	—	78	54
Conjunctivitis ..	28	1	7	—	—	—	55	39								
Iritis ...	—	—	—	—	—	—	11	5								
Keratitis ...	—	—	—	—	—	—	2	—								
Cataract ...	—	—	—	—	—	—	1	4								
Glaucoma ...	—	—	—	—	—	—	1	—								
Myopia ...	—	—	—	—	—	—	—	1								
Epiphora ...	—	—	—	—	—	—	1	—								
Ophthalmia ...	—	—	—	—	—	—	6	4								
Pterygium ...	—	—	—	—	—	—	—	1								
Asthenopia ...	—	—	—	—	—	—	1	—								
EAR—	—	—	—	—	—	—	—	—	9	1	1	—	—	—	86	49
Inflammation Ext.	—	—	—	—	—	—	—	—								
Meatus ...	8	1	1	—	—	—	59	39								
Deafness ...	1	—	—	—	—	—	8	4								
Otorrhœa ...	—	—	—	—	—	—	19	6								
NOSE—	—	—	—	—	—	—	—	—	26	1	7	—	—	—	37	40
Rhinitis ...	—	—	—	—	—	—	—	1								
Epistaxis ...	—	—	—	—	—	—	7	3								
Coryza ...	26	1	7	—	—	—	29	36								
Polypus Nasi ...	—	—	—	—	—	—	1	—								
CIRCULATORY SYSTEM	—	—	—	—	—	—	—	—	16	—	—	—	—	—	42	21
Pericarditis ...	1	—	—	—	—	—	—	1								
Valvular Disease...	9	—	—	—	—	—	26	9								
Hypertrophy ...	1	—	—	—	—	—	—	—								
Palpitation ...	5	—	—	—	—	—	13	10								
Aneurism ...	—	—	—	—	—	—	3	1								
RESPIRATORY SYSTEM	—	—	—	—	—	—	—	—	192	16	40	—	—	—	474	330
Laryngitis ...	4	—	—	—	—	—	11	9								
Bronchitis...	185	16	40	—	—	—	425	308								
Asthma ...	3	—	—	—	—	—	10	8								
Pneumonia ...	—	—	—	—	—	—	13	1								
Pleurisy ...	—	—	—	—	—	—	15	4								
DIGESTIVE SYSTEM—	—	—	—	—	—	—	—	—	335	32	71	—	—	—	967	871
Stomatitis...	14	7	5	—	—	—	27	37								
Teething ...	2	2	—	—	—	—	2	1								
Caries of Tooth ...	2	—	1	—	—	—	45	34								
Gumboil ...	—	—	—	—	—	—	21	9								
Toothache...	29	—	9	—	—	—	107	80								
Total carried forward									1399	97	303	—	—	—	3086	2458

## TOTALS.

	Officials.		C. Police.		F. Police.		Paupers.		Officials.		C. Police.		F. Police.		Paupers.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Total brought forward									1399	97	303	—	—	—	3086	2458
Tongue Tie ...	—	—	—	—	—	—	1	1								
Sore Throat ...	7	2	—	—	—	—	19	24								
Quinsy ...	4	—	—	—	—	—	18	22								
Pharyngitis ...	7	—	1	—	—	—	45	46								
Dyspepsia... ..	112	12	14	—	—	—	175	282								
Enteritis ...	1	—	—	—	—	—	7	6								
Hernia ...	1	—	—	—	—	—	50	1								
Diarrhœa ...	52	1	7	—	—	—	74	54								
Constipation ...	84	6	26	—	—	—	182	116								
Colic ...	11	—	1	—	—	—	43	28								
Piles ...	1	—	—	—	—	—	20	17								
Fistula in Ano ...	—	—	1	—	—	—	—	—								
Hepatitis ...	5	1	2	—	—	—	19	7								
Jaundice ...	—	1	4	—	—	—	14	3								
Ascites ...	—	—	—	—	—	—	5	2								
Gastritis ...	1	—	—	—	—	—	4	5								
Tape Worm ...	—	—	—	—	—	—	18	20								
Round Worm ...	2	—	—	—	—	—	69	74								
Glossitis ...	—	—	—	—	—	—	1	—								
Ankylostomiasis ...	—	—	—	—	—	—	1	2								
LYMPHATIC SYSTEM—	—	—	—	—	—	—	—	—	3	—	—	—	—	—	53	23
Hypertrophy of Spleen ...	—	—	—	—	—	—	5	1	—	—	—	—	—	—	—	—
Inflammation of Glands ...	1	—	—	—	—	—	25	16								
Suppuration of Glands ...	2	—	—	—	—	—	23	6								
THYROID—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Goitre ...	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—
URINARY SYSTEM—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	23	17
Nephritis ...	—	—	—	—	—	—	1	6								
Bright's Disease ...	—	—	—	—	—	—	10	6								
Cystitis ...	—	—	—	—	—	—	10	—								
Incontinence of Urine ...	—	—	—	—	—	—	2	5								
GENERATIVE SYSTEM	—	—	—	—	—	—	—	—	10	7	1	—	—	—	178	76
MALE. Stricture of Urethra ...	1	—	—	—	—	—	27	—								
Urinary Fistula ...	—	—	—	—	—	—	3	—								
Phimosis (non-Gonorrhœal) ...	—	—	—	—	—	—	48	—								
Ulcer of Penis ...	1	—	—	—	—	—	26	—								
Hydrocele... ..	4	—	—	—	—	—	47	—								
Epididymitis ...	—	—	—	—	—	—	1	—								
Orchitis (non-Gonorrhœal) ...	4	—	1	—	—	—	26	—								
FEMALE. Inflammation of Ovary ...	—	—	—	—	—	—	—	—								
Metritis ...	—	2	—	—	—	—	—	4								
Displacements ...	—	—	—	—	—	—	—	4								
Amenorrhœa ...	—	2	—	—	—	—	—	26								
Dysmenorrhœa ...	—	—	—	—	—	—	—	11								
Menorrhagia ...	—	—	—	—	—	—	—	19								
Endometritis ...	—	3	—	—	—	—	—	12								
Affections connected with Pregnancy ...	—	1	—	—	—	—	—	48	—	1	—	—	—	—	—	48
Affections connected with Parturition ...	—	—	—	—	—	—	—	—								
Total carried forward									1412	106	304	—	—	—	3340	2622



TOTALS.

	Officials.		C. Police.		F. Police.		Paupers.		Officials.		C. Police.		F. Police.		Paupers.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Total brought forward									1412	106	304	—	—	—	3340	2622
FEMALE BREAST—									—	—	—	—	—	—	—	12
Inflammation ...	—	—	—	—	—	—	—	2								
Abscess ...	—	—	—	—	—	—	—	10								
ORGANS OF LOCOMOTION—									2	—	—	—	—	—	16	8
Periostitis...	—	—	—	—	—	—	9	2								
Caries ...	—	—	—	—	—	—	—	—								
Necrosis ...	—	—	—	—	—	—	—	3								
Synovitis ...	2	—	—	—	—	—	7	3								
Club Foot...	—	—	—	—	—	—	—	—								
Bursitis ...	—	—	—	—	—	—	—	—								
CONNECTIVE TISSUE—									16	1	—	—	—	—	69	42
Cellulitis ...	—	1	—	—	—	—	8	2								
Abscess ...	16	—	—	—	—	—	61	39								
Carbuncle...	—	—	—	—	—	—	—	1								
SKIN—									65	5	24	—	—	—	809	430
Eczema ...	18	1	3	—	—	—	44	13								
Psoriasis ...	—	—	—	—	—	—	4	5								
Herpes ...	1	—	1	—	—	—	2	—								
Ulcer ...	25	2	9	—	—	—	592	335								
Boil ...	11	1	8	—	—	—	30	21								
Whitlow ...	4	1	—	—	—	—	20	17								
Ring Worm ...	2	—	—	—	—	—	11	2								
Scabies ...	2	—	2	—	—	—	46	15								
Craw Craw ...	2	—	1	—	—	—	21	2								
Vaccination Ulcer	—	—	—	—	—	—	36	20								
Erythema...	—	—	—	—	—	—	2	—								
Erysipelas ...	—	—	—	—	—	—	1	—								
POISONS—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—
Ptomaine ...	1	—	—	—	—	—	—	—								
INJURIES—									70	2	32	—	—	—	678	325
Contusion...	1	—	3	—	—	—	19	9								
Privation ...	—	—	—	—	—	—	—	—								
Burns and Scalds...	4	—	—	—	—	—	24	27								
Bruise ...	7	—	8	—	—	—	42	43								
Wounds—Incised	18	—	10	—	—	—	164	54								
„ Contused	27	1	10	—	—	—	250	112								
„ Punctured	—	—	—	—	—	—	69	30								
„ Lacerated	3	—	—	—	—	—	30	14								
Sprain ...	10	1	—	—	—	—	45	19								
Dislocation ...	—	—	—	—	—	—	9	5								
Fracture ...	—	—	—	—	—	—	19	4								
Human Bite ...	—	—	—	—	—	—	2	1								
Dog Bite ...	—	—	1	—	—	—	5	7								
OPERATIONS	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Not yet Diagnosed ...	211	17	21	—	—	—	230	159	211	17	21	—	—	—	230	159
No Appreciable Disease	22	—	2	—	—	—	124	69	22	—	2	—	—	—	124	69
TOTAL ...									1789	131	383	—	—	—	5266	3687
SUBSEQUENT ATTENDANCES ...									1339	58	440	—	—	—	9015	5387
GENERAL TOTAL									3128	189	823	—	—	—	14281	9054

## GAOL HOSPITAL.

## ANNUAL MEDICAL RETURN FOR 1909.

Table No. 11.

	Males.	Females.	Total.
Patients remaining in Hospital, 1st January, 1909 ...	6	—	
„ admitted into Hospital during 1909 ...	203	5	
Total number treated in Hospital 1909 ...	209	5	214
Of these were—			
Cured ...	89	3	92
Relieved ...	99	2	101
Not Relieved ...	10	—	10
Died ...	10	—	10
Remaining in Hospital on 31st December, 1909 ...	1	—	1
	209	5	214
Daily average of Prisoners in Prison during 1908 ...	...	...	218
Number of Externs (Old Cases) treated during 1908 ...	...	...	4,227

## GAOL HOSPITAL.

Table No. 12.

RETURN OF PRISONERS SEEN AND EXAMINED BY THE MEDICAL OFFICER  
DURING THE YEAR 1909.

	Quarter ending March.	Quarter ending June.	Quarter ending September.	Quarter ending December.	Total
Reported Sick daily ...	445	351	231	339	1,366
Sick placed under observation...	105	107	131	99	442
Sick admitted into Hospital ...	65	54	60	35	214
Convalescents on Light Labour ...	67	26	21	104	218
Examined for Solitary Confinement ...	160	113	47	66	386
Seen in Solitary Confinement ...	160	113	47	66	386
Examined for Corporal Punishment ...	—	1	1	2	4
New-comers, including Remands and Trials...	230	231	259	295	1,015
Number of Condemned Prisoners seen	2	—	1	8	11
Total ...	1,234	996	798	1,014	4,042
Externs treated during the year 1909 ...	...	...	...	...	5,032
Daily Average of Prisoners treated during 1909 ...	...	...	...	...	13



Table No. 13.

RETURN SHOWING IN-PATIENTS TREATED IN ALL THE HOSPITALS OF THE COLONY AND PROTECTORATE, EXCEPT COLONIAL HOSPITAL, DURING 1909.

Diseases.			Remaining in Hospital at end of 1908.	Yearly Total.		Total Cases Treated.	Remaining in Hospital at end of 1909.	Remarks.
				Admis- sions.	Deaths.			
GENERAL DISEASES.	Small Pox	... ..	2	—	—	2	—	
	Chicken Pox	... ..	—	1	—	1	—	
	Dysentery	... ..	—	10	1	10	—	
	Malarial Fevers—							
	Intermittent	... ..	—	22	—	22	1	
	Remittent	... ..	—	4	—	4	—	
	Blackwater	... ..	—	—	—	—	—	
	Beri Beri	... ..	—	—	—	—	—	
	Tubercle	... ..	1	3	—	4	—	
	Syphilis—							
	Primary	... ..	—	—	—	—	—	
	Secondary	... ..	—	15	—	15	—	
	Tertiary	... ..	—	—	—	—	—	
	Gonorrhœa	... ..	—	6	—	6	—	
	Leprosy	... ..	—	—	—	—	—	
	Rheumatism	... ..	—	35	—	35	—	
	Debility	... ..	—	9	—	9	—	
	Sleeping Sickness	... ..	—	1	1	1	—	
	Anæmia	... ..	—	1	—	1	—	
	Other Diseases...	... ..	1	18	1	19	—	
NERVOUS SYSTEM.	Apoplexy	... ..	—	9	1	9	—	
	Paralysis	... ..	—	—	—	—	—	
	Epilepsy	... ..	—	1	—	1	—	
	Neuralgia	... ..	—	—	—	—	—	
	Locomotor Ataxia	... ..	—	—	—	—	—	
	Idiocy	... ..	—	—	—	—	—	
	Disseminated Sclerosis	... ..	—	—	—	—	—	
	Other Diseases	... ..	—	4	1	4	—	
LOCAL DISEASES.	Diseases of the Eye	... ..	—	4	—	4	—	
	" " Ear	... ..	—	3	—	3	—	
	" " Nose	... ..	—	—	—	—	—	
	" " Circula- tory System	... ..	1	7	1	8	—	
	" " Respira- tory System	... ..	—	21	—	21	—	
	" " Digestive System	... ..	3	31	2	34	—	
	" " Lymphatic System	... ..	2	9	—	11	—	
	" " Urinary System	... ..	—	2	—	2	—	
	Carried forward	... ..	10	216	8	226	1	

RETURN SHOWING IN-PATIENTS TREATED IN ALL THE HOSPITALS OF THE COLONY AND PROTECTORATE, EXCEPT COLONIAL HOSPITAL, DURING 1909—*cont.*

Diseases.		Remaining in Hospital at end of 1908.	Yearly Total.		Total Cases Treated.	Remaining in Hospital at end of 1909.	Remarks.
			Admis- sions.	Deaths.			
Brought forward...		10	216	8	226	1	
LOCAL DISEASES.—( <i>cont.</i> )	Diseases of the Generative						
	System—Male	—	26	—	26	—	
	„ „ Generative						
	System—Female	—	6	1	6	—	
	Organs of Locomotion ...	—	6	—	6	—	
	Connective Tissues ...	1	23	—	24	—	
	Skin ...	5	63	—	68	—	
	Injuries General ...	—	—	—	—	—	
	„ Local ...	2	28	—	30	—	
Surgical Operations...		2	36	—	38	—	
Unclassified ...		—	4	—	4	—	
Total ...		20	408	9	428	1	



Table No. 14.

RETURN SHOWING OUT-PATIENTS TREATED IN THE VARIOUS DISPENSARIES  
OF THE COLONY AND PROTECTORATE, EXCEPT THE COLONIAL HOSPITAL,  
DURING THE YEAR 1909.

DISEASES.							Male.	Female.
Small Pox	...	...	...	...	...	...	2	—
Cow Pox	...	...	...	...	...	...	—	2
Chicken Pox	...	...	...	...	...	...	10	1
Measles	...	...	...	...	...	...	3	7
Influenza	...	...	...	...	...	...	17	11
Whooping Cough	...	...	...	...	...	...	57	5
Mumps	...	...	...	...	...	...	11	11
Dysentery	...	...	...	...	...	...	149	84
Febricula	...	...	...	...	...	...	57	31
Malarial Fevers—								
Intermittent	...	...	...	...	...	...	602	477
Remittent	...	...	...	...	...	...	16	18
Blackwater	...	...	...	...	...	...	3	1
Syphilis—								
Primary	...	...	...	...	...	...	30	34
Secondary	...	...	...	...	...	...	20	19
Tertiary	...	...	...	...	...	...	125	208
Gonorrhœa	...	...	...	...	...	...	303	6
Debility	...	...	...	...	...	...	145	246
Rheumatism	...	...	...	...	...	...	1,339	1,111
Myalgia	...	...	...	...	...	...	13	5
Non-Malignant Growth	...	...	...	...	...	...	5	—
Malignant New Growth	...	...	...	...	...	...	3	1
Tubercle	...	...	...	...	...	...	6	5
Leprosy	...	...	...	...	...	...	10	2
Yaws	...	...	...	...	...	...	104	47
Anæmia	...	...	...	...	...	...	19	58
Malformations	...	...	...	...	...	...	4	1
Diabetes	...	...	...	...	...	...	—	1
Alcoholism	...	...	...	...	...	...	2	—
Lumbago	...	...	...	...	...	...	3	—
Other Diseases	...	...	...	...	...	...	511	577
LOCAL DISEASES—								
Nervous System	...	...	...	...	...	...	219	225
Diseases of the Eye	...	...	...	...	...	...	136	58
"    Ear	...	...	...	...	...	...	89	104
"    Nose	...	...	...	...	...	...	61	46
"    Circulatory System	...	...	...	...	...	...	65	75
"    Respiratory	...	...	...	...	...	...	1,178	1,005
"    Digestive	...	...	...	...	...	...	2,907	2,757
"    Lymphatic	...	...	...	...	...	...	187	97
"    Urinary	...	...	...	...	...	...	25	21
"    Generative	...	...	...	...	...	...	212	193
"    Thyroid Gland	...	...	...	...	...	...	—	2
"    Female Breast	...	...	...	...	...	...	—	24
"    Organs of Locomotion	...	...	...	...	...	...	61	22
"    Connective Tissues	...	...	...	...	...	...	118	55
"    Skin	...	...	...	...	...	...	1,568	954
Affection connected with Pregnancy	...	...	...	...	...	...	—	63
"    "    "    Parturition	...	...	...	...	...	...	—	28
Poisons	...	...	...	...	...	...	1	—
Injuries	...	...	...	...	...	...	930	327
Surgical Operations	...	...	...	...	...	...	5	2
Not yet diagnosed—Unclassified	...	...	...	...	...	...	87	36
TOTAL							11,418	9,063
Subsequent Attendances							11,445	9,985
GRAND TOTAL							22,863	19,048

Table No. 15.

MALARIAL INDEX OF COLONY.

SPLEENS EXAMINED IN ALL CASES (AND PARASITES FOUND IN ALL CASES  
TESTED FOR CONFIRMATION).

Town.			Number of Children examined.	Enlarged Spleens.	Normal Spleens.	Percentage of infection.	Remarks.
Waterloo	...	...	100	69	31	69 %	The ages of children examined were from a few months to nine years. Many slides were taken in each place, and all such slides gave positive results.
Hastings	...	...	100	66	34	64 %	
Dublin	{	Bananas	50	25	25	50 %	The parasites of Malignant Tertian Malaria was most in evidence. Benign Tertian was found in a few cases and mixed infections of both varieties in others. No crescents were found; no case of Quartan fever either.
Ricketts		Islands	34	14	20	41 %	
York	...	..	50	30	20	60 %	Many children were found with strong fever while at play and while in school.
Kent	...	...	31	25	6	80 %	Period of examination, April 8th to 20th, 1909.
Tombo	...	...	25	19	6	76 %	
							Average for 7 towns, 62·8 %.

D. BURROWS,  
W.A.M.S.

COLONIAL HOSPITAL,  
SIERRA LEONE,  
*April 25th, 1909*



Table 1.

TABLE SHOWING THE INFANTILE MORTALITY.

			24 Hours and under.		1 Day to 1 Week.		1 to 2 Weeks.		2 to 3 Weeks.		3 Weeks to 1 Month.		1 to 2 Months.		2 to 3 Months.		3 to 4 Months.		4 to 5 Months.		5 to 6 Months.		6 to 7 Months.		7 to 8 Months.		8 to 9 Months.		9 to 10 Months.		10 to 11 Months.		11 to 12 Months.		Total.
			M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
January	...	...	6	3	1	—	—	—	—	—	—	—	1	—	—	—	—	—	1	—	—	—	1	—	—	—	—	1	—	—	—	—	1	—	17
February	...	...	1	2	—	—	—	—	—	—	—	—	—	—	—	3	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8
March	...	...	2	1	3	—	—	—	—	—	1	—	—	—	1	—	—	—	1	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	12
April	...	...	2	2	2	1	—	1	2	—	2	—	1	1	—	—	—	—	—	—	1	—	—	—	—	—	1	—	—	—	—	—	—	—	17
May	...	...	3	2	3	1	—	—	—	—	1	—	—	2	—	—	1	—	—	—	—	—	—	4	1	—	—	—	—	—	—	—	—	—	19
June	...	...	2	5	2	2	1	—	—	1	—	—	—	—	2	—	—	—	—	—	2	—	—	—	—	—	—	—	—	—	—	—	1	—	19
July	...	...	2	2	2	—	1	—	—	—	—	—	1	—	—	—	—	—	—	—	1	1	2	—	1	—	—	1	—	—	—	—	—	—	17
August	...	...	2	2	3	1	—	—	—	—	1	—	—	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	14
September	...	...	3	2	4	2	—	1	1	—	—	—	3	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	20
October	...	...	3	2	2	1	1	4	1	—	—	—	1	—	—	—	1	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	18
November	...	...	3	—	2	1	1	2	—	—	—	—	1	1	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	2	—	—	15
December	...	...	—	3	2	—	—	—	—	—	—	—	1	2	1	—	—	—	1	—	1	—	—	—	—	—	1	—	—	—	—	—	—	—	12
TOTAL			29	26	26	9	4	8	4	1	5	—	5	10	3	7	3	6	4	2	4	3	4	2	5	1	1	3	5	1	1	2	2	2	188

Table II.

TABLE SHOWING THE MORTALITY OVER 12 MONTHS.

		1 to 5 Years.		5 to 10 Years.		10 to 15 Years.		15 to 20 Years.		20 to 25 Years.		25 to 35 Years.		35 to 45 Years.		45 to 55 Years.		55 to 65 Years.		65 to 75 Years.		Over 75 Years.		Total.
		M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
January	...	1	—	—	—	1	1	1	1	—	3	4	3	4	4	2	2	3	1	2	3	1	1	39
February	...	1	1	—	1	—	—	—	—	1	2	5	2	2	—	—	—	3	4	3	—	—	1	36
March	...	4	3	—	—	1	—	—	—	1	2	5	2	3	3	1	—	—	2	—	—	2	—	34
April	...	1	1	1	3	—	1	1	1	2	2	9	1	3	4	3	3	3	3	2	1	3	1	54
May...	...	4	1	2	2	—	—	1	1	1	—	8	5	4	5	—	—	—	1	—	1	—	—	42
June...	...	4	6	—	1	1	—	—	—	—	1	4	3	2	4	2	—	1	4	—	1	1	3	41
July...	...	7	6	—	1	—	—	1	2	1	3	14	3	1	7	1	2	7	3	2	4	1	3	75
August	...	6	2	2	1	—	1	1	—	2	3	9	5	4	2	2	—	2	1	—	—	2	3	52
September	...	2	6	—	1	—	1	1	1	1	—	7	5	1	4	5	—	—	—	1	2	4	4	48
October	...	7	2	1	—	1	1	1	1	2	4	6	3	2	4	1	1	1	1	1	2	2	2	47
November	...	1	1	1	1	—	1	2	2	—	4	5	4	9	6	3	—	1	1	—	—	—	3	51
December	...	4	1	—	2	—	—	—	—	2	1	8	5	1	3	1	—	3	6	2	3	1	3	53
TOTAL	...	42	30	7	13	4	3	7	9	13	25	84	41	62	36	44	21	32	27	13	20	13	26	572



Table III.

TABLE SHOWING THE MORTALITY DUE TO DIFFERENT DISEASES UP TO THE AGE OF FIVE YEARS.

DISEASES.		24 Hours and under.		1 Day to 1 Week.		1 to 2 Weeks.		2 to 3 Weeks.		3 Weeks to 1 Month.		1 to 2 Months.		2 to 3 Months.		3 to 4 Months.		4 to 5 Months.		5 to 6 Months.		6 to 7 Months.		7 to 8 Months.		8 to 9 Months.		9 to 10 Months.		10 to 11 Months.		11 to 12 Months.		1 to 5 Years.		Total.
		M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			
Fever	...	...	...	4	1	1	—	3	4	1	1	3	4	2	1	1	2	2	1	—	1	2	2	1	—	1	1	1	1	—	1	1	11	12	64	
Debility	...	...	3	3	1	2	—	—	2	2	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	1	25		
Starvation	...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Exhaustion	...	...	1	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2		
Nervous System	...	..	3	5	8	6	1	5	—	—	1	3	2	1	2	1	1	3	2	3	—	—	3	—	—	—	—	—	—	—	—	1	1	7	72	
Alimentary System	...	...	—	1	4	—	—	1	1	—	—	1	—	1	—	—	—	—	1	—	1	—	—	—	—	—	—	—	—	—	—	1	12	6	31	
Respiratory	...	...	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5	
Premature Birth	...	...	20	16	1	2	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	40	
Dropsy	...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2		
Miscellaneous	...	...	2	1	3	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	19	
TOTAL	...	...	29	26	26	9	4	8	4	1	5	—	5	10	3	7	3	6	4	4	3	2	5	1	1	3	5	1	1	—	2	2	42	30	260	

Table IV.

TABLE SHOWING THE MORTALITY DUE TO DIFFERENT DISEASES OVER FIVE YEARS.

DISEASES.	5 to 10 Years.		10 to 15 Years.		15 to 20 Years.		20 to 25 Years.		25 to 35 Years.		35 to 45 Years.		45 to 55 Years.		55 to 65 Years.		65 to 75 Years.		Over 75 Years.		TOTAL.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
General Diseases—																					
Fever, Intermittent ...	2	2	—	2	3	1	1	3	6	2	7	6	1	2	5	3	1	1	—	1	49
Fever, Remittent ...	—	—	—	—	—	—	1	—	1	1	—	—	1	—	—	—	—	—	—	—	4
Fever, Blackwater ...	—	—	—	—	—	—	—	—	2	—	—	—	—	—	1	—	—	—	—	—	3
Syphilis ...	—	—	—	—	—	—	—	—	—	2	—	—	—	—	—	—	—	—	—	—	2
Debility ...	—	—	—	—	—	—	—	—	—	1	—	1	3	2	—	1	4	11	12	24	61
Rheumatism ...	—	—	—	—	—	—	2	—	4	1	1	2	3	—	2	1	1	—	—	—	17
Tubercle ...	—	—	—	—	—	—	2	—	2	1	1	2	1	—	—	—	—	—	—	—	9
Trypanosomiasis ...	—	—	—	—	—	—	—	—	2	—	—	—	—	—	—	—	—	—	—	—	2
Cancer ...	—	—	—	—	—	—	—	—	—	—	—	2	—	—	—	—	—	—	—	—	2
Local Diseases—																					
Nervous System	—	3	1	—	1	—	1	—	7	3	5	1	6	2	2	5	1	1	—	1	40
Circulatory "	1	—	—	—	1	—	—	1	2	5	6	4	6	1	2	2	1	1	—	2	35
Respiratory "	2	2	—	—	3	2	7	3	16	12	14	8	10	5	9	3	—	—	—	—	101
Digestive "	—	2	—	—	1	2	3	6	16	10	9	3	5	6	1	5	2	1	1	1	76
Lymphatic "	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Urinary "	—	—	1	1	—	1	—	2	1	3	5	5	6	1	3	1	1	1	—	—	32
Generative, Male ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	1
" Female	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Affections connected with Pregnancy	—	—	—	—	—	—	—	3	—	1	—	—	—	—	—	—	—	—	—	—	7
" Parturition	—	—	—	—	—	3	—	1	—	3	—	—	—	—	—	—	—	—	—	—	4
Connective Tissue...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Skin ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Poison ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Injuries ...	1	1	—	—	—	—	1	—	—	—	—	—	1	—	—	—	—	—	—	—	1
Unclassified ...	4	1	1	—	—	—	5	5	8	3	6	1	—	5	5	4	—	—	—	—	6
																					48
TOTAL	10	11	3	3	9	9	23	24	68	49	54	35	43	24	33	26	11	22	14	29	500



Table V.

TABLE SHOWING THE MORTALITY DUE TO DIFFERENT DISEASES AT ALL AGES.

DISEASES.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		TOTAL.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
General Diseases—	1	1	1	2	—	5	7	2	8	5	2	2	11	9	7	1	1	7	5	3	8	4	8	103	
Fever, Intermittent	3	3	1	1	2	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	13	
Fever, Remittent	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	1	—	—	—	—	3	
Fever, Blackwater	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	
Syphilis ...	3	8	5	—	—	5	2	4	1	5	2	2	6	5	1	3	6	—	2	—	—	3	4	86	
Debility...	1	—	1	—	2	—	2	—	—	—	1	2	—	—	—	—	—	—	—	—	2	2	—	17	
Rheumatism ...	2	—	—	—	—	—	—	—	1	—	—	—	1	—	—	—	—	—	1	—	—	—	—	9	
Tubercle	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	
Trypanosomiasis	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	
Cancer ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Local Diseases—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Nervous System	—	1	4	2	6	1	4	4	6	5	6	10	7	3	7	1	6	—	8	10	4	4	4	111	
Circulatory "	—	2	—	2	1	2	1	1	1	1	4	1	3	1	2	2	—	3	3	1	4	4	—	37	
Respiratory "	6	3	2	4	10	2	6	6	7	1	—	6	8	3	6	6	5	—	6	7	4	6	4	108	
Digestive "	4	—	5	4	9	5	1	1	5	1	5	6	10	3	7	7	3	6	1	2	3	5	3	105	
Lymphatic "	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	2	
Urinary	—	3	1	3	2	—	2	2	3	1	2	—	3	—	2	2	—	—	1	1	2	2	2	32	
Genarat ve, Male	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	1	
" Female	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Affctions connected with Pregnancy	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	2	—	—	—	—	1	6	
" " Parturition	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4	
Connective Tissue	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Skin ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Poison	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Injuries	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	
Premature Birth	3	3	1	2	—	2	3	2	1	1	—	1	2	—	—	1	—	—	—	—	—	2	1	40	
Unclassified ...	5	—	—	3	1	5	1	1	5	3	2	6	3	6	—	—	2	2	1	2	5	1	1	67	
TOTAL	30	26	21	23	21	25	46	25	38	23	25	35	61	31	40	26	30	38	39	26	33	34	31	760	

Table VI.

TABLE SHOWING THE DISTRIBUTION OF DEATHS ACCORDING TO MONTHS AND SEXES, 1909.

MONTH.		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
Male	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	...	30	21	21	46	38	25	61	40	30	39	33	34	418
Female	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	...	26	23	25	25	23	35	31	26	38	26	33	31	342
TOTAL	...	56	44	46	71	61	60	92	66	68	65	66	65	760